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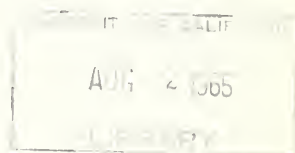
# HYDROLOGIC DATA: 1963

Volume V: SOUTHERN CALIFORNIA

Appendix D: SURFACE WATER QUALITY

Appendix E: GROUND WATER QUALITY

APRIL 1965



HUGO FISHER  
*Administrator*  
The Resources Agency

EDMUND G. BROWN  
*Governor*  
State of California

WILLIAM E. WARNE  
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ORGANIZATION OF BULLETIN NO. 130 SERIES

- Volume I - NORTH COASTAL AREA
- Volume II - NORTHEASTERN CALIFORNIA
- Volume III - CENTRAL COASTAL AREA
- Volume IV - SAN JOAQUIN VALLEY
- Volume V - SOUTHERN CALIFORNIA

Each volume consists of the following:

TEXT and

- Appendix A - CLIMATE
- Appendix B - SURFACE WATER FLOW
- Appendix C - GROUND WATER MEASUREMENTS
- Appendix D - SURFACE WATER QUALITY
- Appendix E - GROUND WATER QUALITY



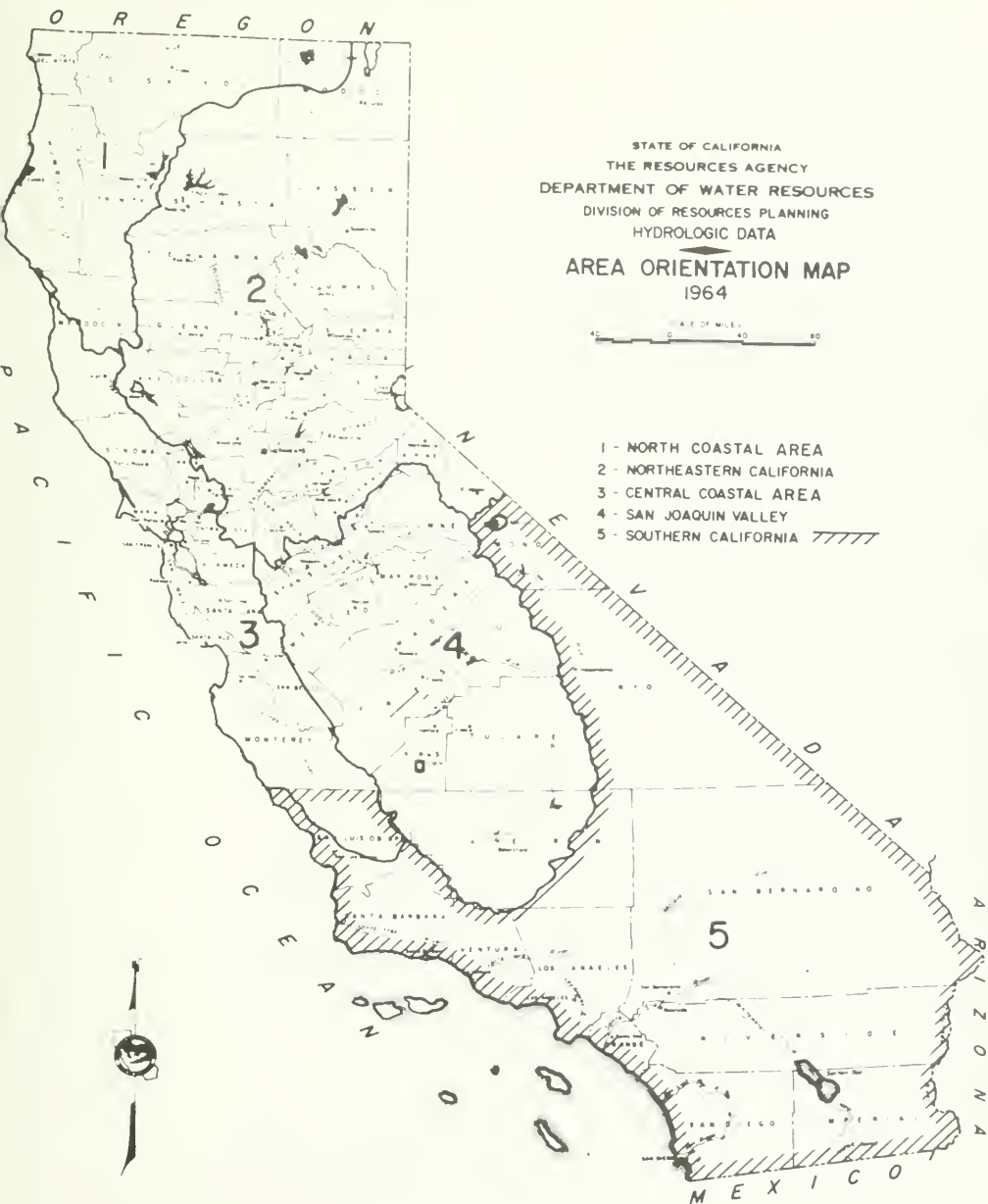




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PLATES

(Plates listed below are bound at the end of these appendixes)

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D-1	Location of Surface Water Quality Monitoring Program Stations 1962-63
E-1	Location of Areas Monitored for Ground Water Quality Changes, 1963

APPENDIXES

Appendix

D	SURFACE WATER QUALITY DATA . . . . .	D-i
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## INTRODUCTION

These appendixes contain surface water quality data for the 1962-63 water year and ground water quality data for the 1963 calendar year for Southern California. This area is shown on Figure 1. Appendix D contains detailed information on surface water quality at stations whose locations are shown on Plate D-1. Appendix E contains detailed information on ground water quality in areas shown on Plate E-1.

To facilitate the processing of basic hydrologic data published in this report, numerical and letter codes are used to designate hydrologic areas, stream sampling stations, and wells. These coding systems are described in the following paragraphs.

### Hydrologic Area Coding System

The hydrologic area coding system is based on a decimal numbering system, in the form A-11.A1, comprising two alphabetical characters and three digits. The alphabetical character to the left of the dash refers to drainage province. The boundaries of these provinces correspond to the regional water pollution control board boundaries, with exception of the Los Angeles-Orange and Los Angeles-San Bernardino county boundary. The final four positions of the areal designation code comprise two digits to the left of the decimal, which refer to the hydrologic unit, and one alphabetical character and one digit to the right of the decimal, which refer to the hydrologic subunit and hydrologic subarea, respectively. A discussion of this system is presented in Chapter II of the text to Volume V, Bulletin 130-63. Attachments 1 through 6 in Volume V, Bulletin 130-63, contain a cross-reference between this new system of areal designation and the old ground water basin numbering system along with plates showing these areas.

### Stream Sampling and Well Designation

To designate the stream sites and wells sampled to obtain data presented in this report, the systems described below were used.

#### Stream Sampling Station Numbering System

The numbering system used to designate stream sampling stations in this report consists of the name of the stream and a brief description of the location of the sampling point. The stations are also identified by an arbitrary numbering system used only for ready reference. Stations in California are numbered sequentially with number consisting of a numeric and sometimes also an alphabetic designation. An example of a station number is Station No. 65c.

#### Well Numbering System

The state well numbering system used in this report is based on township, range, and section subdivision of the Public Land Survey. It is the system used in all ground water investigations and for numbering all wells for which data are published or filed by the Department of Water Resources. In this report the number of a well, assigned in accordance with this system, is referred to as the State Well Number.

Under the system each section is divided into 40-acre tracts lettered as follows:

D	C	B	A
E	F	G	H
M	L	K	J
N	P	Q	R

Note that I and O are omitted in the grid above.

Wells are numbered within each 40-acre tract according to the chronological sequence in which they have been assigned State Well Numbers. For example, a well which has the number 9N/32W-17G1, S, would be in Township 9 North; Range 32 West, Section 17, San Bernardino Base and Meridian, and would be further designated as the first well assigned a State Well Number in tract G. Well numbers are referenced to the Mount Diablo Base and Meridian (M), the San Bernardino Base and Meridian (S), or the Gila and Salt River Base and Meridian (G).

#### Field Methods and Procedures

In collecting samples of surface and ground waters, a number of agencies cooperated with the Department of Water Resources. These agencies are listed below. The procedures followed for collecting samples are also discussed.

#### Surface Water Sampling

Agencies that participated in the field sampling program during 1962 and 1963, together with the number of surface water stations sampled by each agency, are:

<u>Agency</u>	<u>Number of stations sampled</u>
Department of Water Resources	47
The Metropolitan Water District of Southern California	2
Los Angeles City Health Department	1
Los Angeles Department of Water and Power	1
Long Beach City Health Department	1
City of San Bernardino	<u>2</u>
Total	54

In the continuing program, water samples are collected in May and September for mineral, radiological, bacteriological, and trace elements analyses. In the northern portion of the Southern District, water samples are collected monthly, and in the southern portion, bimonthly for partial mineral and bacteriological analyses. Colorado River stations are sampled only twice a year. The water samples collected for bacteriological examination are kept in portable ice boxes until delivered to the laboratory. All water samples are transported to the laboratories as expeditiously as possible.

At the time the samples are collected for laboratory examination, field determinations are made for dissolved oxygen by the modified Winkler method; water temperature; and pH. These data are included in Appendix D. Visual inspection is made of the stream or lake and the physical conditions are noted.

Where possible, the sampling stations have been selected so as to be at or near stream-gaging stations so that gage heights can also be recorded at the time the water samples are collected. Instantaneous stream discharges at the time of sample collection are then obtained. In the absence of gaging stations, streamflow is estimated by other methods.

#### Ground Water Sampling

The ground water quality monitoring program in the Southern District is conducted with the assistance of many cooperating local agencies. They are as follows:

San Luis Obispo County Flood Control and Water Conservation  
District

United States Geological Survey, Santa Barbara County  
Subdistrict Office



Ventura County Department of Public Works  
Los Angeles County Flood Control District  
San Bernardino County Flood Control District  
Riverside County Flood Control and Water Conservation District  
Orange County Flood Control District  
United Water Conservation District, Ventura County  
City of Long Beach  
Los Angeles Department of Water and Power  
United States Geological Survey, Southern California  
Subdistrict Office

Sources are identified by state well number, for which precise location information is on record. A water sample is collected in either a gallon or half-gallon container, of glass or plastic. The required sample should be taken at the pump after it has been pumping for five or more minutes. Temperature, color, odor, and taste of samples are noted and recorded as soon as they are collected.

Separate samples are collected for radioactivity analysis, trace element analysis, or special analyses when such analyses are deemed necessary.

#### Laboratory Methods and Procedures

Methods of mineral, radiological, and bacterial analyses, used by the Department of Water Resources, in general, are those described in the American Public Health Association publication "Standard Methods for the Examination of Water and Sewage", 11th edition, 1960. In some cases, the methods described in the following publications also have been employed:

U.S. Geological Survey, "Methods for Collection and Analysis of Water Samples", Water Supply Paper 1454, 1960.

California Department of Public Works, Division of Water Resources, "Methods of Analysis", October 1955.

Mineral analyses are reported in parts per million (ppm) and bacterial analyses as most probable number per milliliter (MPN). Radioassays are reported as micro-microcuries per liter (uuc/l), the exact equivalent of pico-curies per liter (pc/l).

Heavy metals (trace elements) are reported as parts per million for the May 1963 analyses, which were performed by Terminal Testing Laboratories Incorporated at Los Angeles. The trace elements analyses for September 1963 are reported as parts per billion (ppb). These analyses were performed by the United States Geological Survey Laboratory at Sacramento, California, and used a newly developed spectrographic procedure perfected by that Laboratory. Limitations in the precision of measurements in spectrographic analyses frequently require the reporting of results as less than or more than the amounts presented, as is indicated in the footnotes accompanying the tables.

Oil and grease, phenols, alkalinity, 5-day biochemical oxygen demand (BOD), dissolved oxygen (DO), and free carbon dioxide (CO<sub>2</sub>) are reported as parts per million, as are values for alkyl benzene sulfonate (ABS), the major constituent in present-day household synthetic detergents.

The radioassays of ground water samples were performed by several laboratories and have not followed the sampling and counting procedures discussed in the preceding paragraphs. Because ground water activity levels have historically proved to be quite low, usually only total activity (alpha plus gross beta-gamma activity) has been assayed. If total activity exceeds 100 uuc/l, alpha activity is determined.

It should be pointed out that determinations of some of the reported constituents are not absolute, but merely indicative of levels of

water quality. The purpose of these data is to help the investigator judge whether further, more intensive investigation is warranted to identify a source of pollution or to trace the movement of pollution.

Machine methods of data processing are being developed and tables E-1 through E-6 have been tabulated by machine. By putting the data on machines, the Department should soon be able to supply the user precisely the data he needs - so far as they are available in the Department.



APPENDIX D

SURFACE WATER QUALITY DATA



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	<u>Analyses of Surface Water</u>	
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D- 3	Los Angeles Drainage Province (U)	D- 7
D- 4	Lahontan Drainage Province (W)	D-26
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MINERAL ANALYSES OF SURFACE WATERS

- a. Field pH  
Tests made by agency reporting analysis. Tests on samples collected in pairs by Department of Water Resources, made by State of California Department of Public Health, Division of Laboratories, Los Angeles, California.
- b. Analyses made by Department of Water Resources (DMR) City of Los Angeles Department of Water and Power (LADWP) Los Angeles City Department of Public Health (LADPH) Long Beach City Department of Public Health (LBDPH) or The Metropolitan Water District of Southern California (MWD)
- c.



TABLE D-1  
SAMPLING STATION DATA AND INDEX

SURFACE WATER STATION LOCATIONS  
YEARS 1962-1963

Station	Station Number	Location <sup>a</sup>	Period of Record <sup>b</sup>	Frequency of Sampling <sup>c</sup>	Sampled by <sup>d</sup>	Analysis on page
<u>Alamo River</u>						
At International Boundary	59	17S/16E-18	February 1951	B	DWR	D-35, D-66
Near Calipatria	60	11S/13E-22	March 1951	B	DWR	D-36, D-68
<u>All American Canal</u>						
Near Pilot Knob	56e	16S/21E-24	May 1953	S	DWR	D-32, D-68
<u>Chino Creek</u>						
Near Chino	86	2S/ 8W-36	April 1952	M	DWR	D-48, D-70
<u>Colorado River</u>						
Near Topock, Arizona	54	7N/24E- 8	April 1951	S	DWR	D-28, D-68, D-77
Lake Havasu, Colorado River Aqueduct at Intake	56d	3N/27E-28	November 1953	M	MWD	D-29, D-68
Aqueduct at La Verne	69	1S/ 9W- 6	April 1951	M composite	MWD	D-24, D-25, D-65, D-66
Below Parker Dam	55	2N/27E-16	April 1951	S	DWR	D-30, D-69
Near Blythe	56c	7S/23E- 2	May 1953	S	DWR	D-31, D-68
At Yuma, Arizona	56	16S/23E-36	April 1951	S	DWR	D-33, D-68, D-76, D-77
Below Morelos Dam	56b	8S/24W-28 <sup>e</sup>	May 1953	S	DWR	D-34, D-66
<u>Cuyama River</u>						
Near Garey	44a	10N/33W-25	October 1958	M	DWR	D-4, D-55, E-7
<u>Escondido Creek</u>						
Near Harmony Grove	63	12S/ 2W-30	March 1951	B	DWR	D-52, E-71, D-80, E-81
<u>Lake Elsinore</u>						
At North Shore	89	6S/ 5W- 1	February 1952	B	DWR	D-49, D-70
<u>Forester Creek</u>						
At Mission Gorge Road	65a	15S/ 1W-28	November 1957	B	DWR	D-55, D-71
<u>Los Angeles Aqueduct</u>						
Near San Fernando	70	3N/15W-30	April 1951	M	LADWP	D-22, D-23, D-61, D-64
<u>Los Angeles River</u>						
At Figueroa Street	47	1S/13W-15	April 1951	M, S	LADPH, DWR	D-14, D-60, D-74, D-75
At Pacific Coast Highway	48	4S/13W-26	April 1951	M, S	LBDFH, DWR	D-15, D-16, D-60, D-74 D-76
<u>Matilija Creek</u>						
Above Dam	45b	5N/23W-19	May 1953	M	DWR	D-7, E-61
<u>Mission Creek</u>						
At Whittier Narrows	49a	2S/11W- 6	April 1951	M	DWR	D-19, D-61, D-74
<u>Mojave River</u>						
At The Forks	67a	3N/ 3W-18	July 1957	M	DWR	D-26, E-67
Near Victorville	67	6N/ 4W-29	March 1951	M	DWR	D-27, D-67
<u>New River</u>						
At International Boundary	57	17S/14E-14	April 1951	B	DWR	D-37, D-68
Near Westmorland	58	12S/13E-30	February 1951	B	DWR	D-38, D-68
<u>Piru Creek</u>						
Near Piru	46c	4N/18W-20	June 1957	M	DWR	D-11, D-66

a. Except as indicated below location is referenced to San Bernardino Base and Meridian.

b. Beginning of record.

c. M - Monthly, B - Bimonthly, S - Semiannually.

d. DWR, Department of Water Resources; MWD, Metropolitan Water District; LADPH, Los Angeles Department of Public Health; LBDFH, Long Beach Department of Public Health.

e. Gila and Salt River Base and Meridian.

TABLE D-1  
 SAMPLING STATION DATA AND INDEX

SURFACE WATER STATION LOCATIONS  
 YEARS 1962-1963  
 (continued)

Station	Station Number	Location <sup>a</sup>	Period of Record <sup>b</sup>	Frequency of Sampling <sup>c</sup>	Sampled by <sup>d</sup>	Analysis on Page
<u>Rio Hondo</u>						
At Whittier Narrows	49	2S/11W- 6	April 1951	M	DWR	D-17, D-61, D-74, D-75
Above Spreading Grounds	49b	2S/12W-12	May 1963	M	DWR	D-18, D-61, D-75
<u>Salton Sea</u>						
At Salton Sea State Park	68a	7S/10E- 2	March 1955	B	DWR	D-39, D-69
<u>San Diego River</u>						
At Old Mission Dam	65	15S/ 2W-25	April 1951	B	DWR	D-54, D-71
Near Mission Gorge Road	65c	15S/ 2W-35	July 1962	B	DWR	D-56, D-71, D-80
<u>San Dieguito River</u>						
Below San Pasqual Valley	64	13S/ 2W- 1	April 1951	B	DWR	D-53, D-71
<u>San Gabriel River</u>						
At Azusa Powerhouse	50d	1N/10W-22	March 1957	M	DWR	D-20, D-61, D-75
At Whittier Narrows	50	2S/11W- 5	April 1951	M	DWR	D-21, D-61
<u>San Luis Rey River</u>						
Near Pala	62	9S/ 2W-36	March 1951	B	DWR	D-51, D-71
<u>Santa Ana River</u>						
Near Mantone	51b	13/ 2W- 4	April 1951	M	DWR	D-42, D-70, D-70
Near Arlington	51	23/ 6W-25	January 1951	M	DWR	D-43, D-70, D-78, D-79
Near Norco	51e	23/ 7W-30	April 1951	M	DWR	D-44, D-70, D-78, D-79
Below Prado Dam	51a	33/ 7W-29	April 1951	M	DWR	D-45, D-70, D-78, D-79
<u>Santa Clara River</u>						
At Los Angeles-Ventura County Line	40	4N/17W-30	April 1951	M	DWR	D-9, D-60, D-74, D-75
Near Santa Paula	46a	3N/21W-12	April 1951	M	DWR	D-10, D-60, D-74, D-75
<u>Santa Margarita River</u>						
Near Fallbrook	51c	9S/ 4W-12	February 1951	B	DWR	D-50, D-71
<u>Santa Paula Creek</u>						
Near Santa Paula	46e	4N/21W-27	June 1957	M	DWR	D-13, D-60
<u>Santa Ynez River</u>						
At Cachuma Reservoir	44b	6N/30W-19	April 1958	M	DWR	D-5, D-59, D-73
Near Solvang	45a	6N/31W-22	April 1951	M	DWR	D-6, D-59
<u>Seape Creek</u>						
Near Fillmore	46d	4N/20W-12	June 1957	M	DWR	D-12, D-60
<u>Spring Valley Creek</u>						
Near La Pressa	65b	17S/ 1W-17	March 1958	B	DWR	D-57, D-71
<u>Tia Juana River</u>						
At International Boundary	66	19S/ 2W- 1	April 1951	B	DWR	D-58, D-71
<u>Ventura River</u>						
Near Ventura	61	3N/23W- 8	May 1951	M	DWR	D-8, D-61, D-74, D-75
<u>Warm Creek</u>						
At Colton	50b	1S/ 4W-21	April 1951	M	City of San Bdo.	D-46, D-70, D-78, D-70

a. Except as indicated below location is referenced to San Bernardino Base and Meridian

b. Beginning of record

c. M - Monthly, B - Bimonthly, S - Semiannually

d. DWR, Department of Water Resources; MWD, Metropolitan Water District; LADPH, Los Angeles Department of Public Health; LBDPH, Long Beach Department of Public Health.

TABLE D-1  
 SAMPLING STATION DATA AND INDEX

SURFACE WATER STATION LOCATIONS  
 YEARS 1962-1963  
 (continued)

Station	Station Number	Location <sup>a</sup>	Period of Record <sup>b</sup>	Frequency of Sampling <sup>c</sup>	Sampled by <sup>d</sup>	Analysis on page
<u>Warm Creek</u>						
At San Bernardino	50c	1S/ 44-15	April 1951 through 1963	M	DWR	D-47, D-70
<u>Whitewater River</u>						
Near Whitewater	68	3S/ 3E- 2	February 1951	B	DWR	D-40, D-69
Near Mecca	68B	7S/ 9E-31	July 1957	B	DWR	D-41, D-69

a. Except as indicated below location is referenced to San Bernardino Base and Meridian.  
 b. Beginning of record.  
 c. M - Monthly, B - Bimonthly, S - Semiannually.  
 d. DWR, Department of Water Resources; MWD, Metropolitan Water District; LADPH, Los Angeles Department of Public Health; LEDPH, Long Beach Department of Public Health.

TABLE D-2

## ANALYSES OF SURFACE WATER

CENTRAL COASTAL DRAINAGE PROVINCE I  
CUTAWA RIVER NEAR DAREY (Station 44a)

Date the sample was collected P. S. T.	Discharge Temp in °C in cfs	Dissolved oxygen ppm	Specific conductance (at 25°C)	pH	Mineral constituents in parts per million													Total dissolved solids in ppm	Per- cent total solid in um	Hardness, as CaCO <sub>3</sub> ppm	Tur- bidity, NTU ppm	Cu/cr/cr, b MPN/ml	Analyzed by C
					Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbon- dioxide (CO <sub>2</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluoride (F)	Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents						
Water Year 1962-1963																							
10-2-62 0750	Dry No flow																						
11-14-62 0725	Dry No flow																						
12-4-62 0750	Dry No flow																						
1-15-63 0745	Dry No flow																						
2-5-63 0750	1 est.	8.0 72	2033	7.9	189 9.13	7.19	141 6.13	5.8 0.15	0	3.32 5.44	7.39 15.39	92 2.59	0	0.95 0.05	0.33	24	1589	26	846 574	<25	240 240	DWR	
3-5-63 0730	Dry No flow																						
4-2-63 0945	Dry No flow																						
5-6-63 1005	15 est.	8.8	86	1332	7.9	125 5.24	4.39	91 3.79	4.8 0.12	0	229 3.76	57 1.61	1.2 0.02	0.89 0.04	0.30	10	989	27	541 353	<25	240 240	DWR	
6-3-63 1545	1 est.	9.0	110	1698	7.8	146 7.29	87 7.15	189 5.22	4.8 0.12	0	246 4.04	79 13.52	0.5 0.00	0.92 0.05	0.32	8	1319	20	722 520	<25	62 62	DWR	
7-1-63 1410	1 est.	11.0	137	1821	7.8	172 8.58	91 7.46	126 5.18	4.7 0.12	0	290 4.76	86 14.26	0.4 0.00	1.0 0.05	0.33	9	1408	25	802 564	<25	7000 1300	DWR	
8-1-63 0730	Dry No flow																						
9-1-63 1530	Dry No flow																						

TABLE D-2

ANALYSES OF SURFACE WATER

CENTRAL COASTAL DRAINAGE PROVINCE I  
SANTA YNEZ RIVER AT CACHOPIA RESERVOIR (station 14b)

Date on which analyzed P.S.T.	Page Height above (below) spillway crest	Temp in °F	Dissolved oxygen ppm %Sat	Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Percent sodium	Hardness as CaCO <sub>3</sub> Total ppm	Tur- bid- ity, nephelometric units	Coliforms MPN/ml	Analyzed by C										
						Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- dioxide (CO <sub>2</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fur (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluor- ine (F)							Boron (B)	Silico- (SiO <sub>2</sub> )	Other constituents							
Water Year 1962-1963																															
10-1-62 1905	4.95 to spill	74	8.8	102	7.94	8.2				0	1.98		17		3.24		0.39							21	335	173	<25	45	45	DMR	
11-14-62 0850	5.75 to spill	64	8.4	88	7.5	7.5			0	2.06		14		0.39		3.38		0.35							21	343	174	<25	2-3	2-3	DMR
12-5-62 0950	6.15 to spill	60	7.6	76	7.6	7.6			0	2.05		15		0.42		3.36		0.31							19	340	172	<25	0.46	0.6	DMR
1-15-63 1050	-6.95 to spill	54	7.2	67	7.7	7.7			0	2.01		16		0.45		3.30		0.31							20	337	172	<25	0.45	0.45	DMR
2-5-63 1030	-7.12 to spill	60	12.4	122	7.89	8.2			0	2.07		15		0.42		3.40		0.37							22	313	143	<25	0.45	0.6	DMR
3-5-63 1140	-6.78 to spill	57	8.0	77	7.83	7.8			0	2.02		15		0.42		3.34		0.42							22	310	144	<25	0.6	2.3	DMR
4-2-63 1105	-6.70 to spill	58	8.0	77	7.66	8.2			0	2.01		14		0.39		3.30		0.34							22	316	151	<25	1.3	0.6	DMR
5-6-63 1430	-6.68 to spill	65	8.2	87	7.70	8.3			0	2.10		14		0.39		3.44		0.46							21	323	151	<25	6.2	23	DMR
6-4-63 1100	-7.17 to spill	69	10.0	110	7.76	8.4			0	2.10		18		0.51		3.44		0.34							20	347	175	<25	0.6	23	DMR
7-1-63 1640	-8.00 to spill	68	10.8	118	7.64	7.9			0	2.10		14		0.39		3.44		0.32							20	355	183	<25	23	6.2	DMR
8-1-63 1915	-9.38 to spill	70	10.2	114	7.68	8.5			0	1.95		16		0.45		3.20		0.45							23	327	197	<25	.46	.60	DMR
9-4-63 0830	-11.43 to spill	74	10.0	116	7.56	8.5			0	1.78		15		0.42		2.92		0.60							22	321	175	<25	24	0.6	DMR

TABLE D-2  
ANALYSES OF SURFACE WATER

CENTRAL CANAL DRAINAGE FOOTING, F  
SANTA FE RIVER NEAR SOZANAK (Station 45a)

Date and time sampled PST	Discharge in cfs	Temp in deg F	Dissolved oxygen in ppm	Specific conductance (micromhos or 25°C)	pH	Mineral constituents in parts per million											Total dissolved solids in ppm	Hardness as CaCO <sub>3</sub> Total in ppm	Temporary hardness in ppm	Total Coliform MPN/ml	Analyzed by C
						Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potash- ium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fure (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)	Boron (B)					
Water Year (1962-1963)																					
12-1-62	Dry																				
15-62	No flow																				
11-14-62	Dry																				
09-20	No flow																				
12-5-62	Dry																				
04-5	No flow																				
1-15-63	3 est.	40	11.6	97	134.4	7.9	119	80	3.0	317	423	56	0.5	0.34	22	903	686	279	23		
1000							374	65	0.07	674	674	153	0.00	0.36							
2-5-63	6 est.	55	12.0	112	120.3	8.0		68	0	416	0	51	0	0							
0935								2796	0.00	678	0	144	0.00	0.36							
3-5-63	6 est.	49	11.8	110	113.7	7.8	82	67	2.8	276	337	45	4.3	0.38	23	774	504	223	62		
1900							4709	551	0.07	578	552	127	0.07	0.38							
4-2-63	6 est.	59	14.0	138	111.3	8.4		61	0	353	0	41	0	0.30							
1030								2767	0.00	278	278	116	0.00	0.30							
5-6-63	7 est.	78	11.6	140	106.9	8.2	75	65	2.4	257	334	44	1.0	0.35	26	695	456	182	23		
1330							374	538	0.06	578	578	124	0.01	0.35							
0-4-63	6 est.	72	11.2	127	113.6	8.1	67	87	2.2	386	0	49	0.5	0.34	20	774	525	209	25		
1000							374	716	0.06	632	632	138	0.00	0.34							
7-1-63	Dry																				
1540	No flow																				
8-1-63	Dry																				
0900	No flow																				
9-3-63	Dry																				
1515	No flow																				

ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE PROVINCE U  
MATELITA CREEK ABOVE DAM (Station 45b)

Date and time sampled PST	Discharge Temp in cfs	Dissolved oxygen ppm	% Sat	Specific Conductance at 25°C	Mineral constituents in parts per million											Total dissolved solids in ppm	Percent solids in ppm	Hardness as CaCO <sub>3</sub> Total in ppm	Turbidity in nephelometric turbidity units	Coliform MPN/ml	Analyzed by						
					Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonates (CO <sub>3</sub> )	Bicarbonates (HCO <sub>3</sub> )	Sulfates (SO <sub>4</sub> )	Chlorides (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)	Boron (B)							Silica (SiO <sub>2</sub> )	Other constituents				
Water Year 1962-1963																											
10-2-62	3.5	8.0	91	1128	7.8 <sup>a</sup>																			2.3	DMR		
11-13-62	4.0	10.4	97	1133	8.1 <sup>a</sup>																			2.3	DMR		
12-4-62	2.5	7.6	77	1140	7.7 <sup>a</sup>																			6.2	DMR		
1-15-63	6.3	8.8	86	1119	8.1																			6.6	DMR		
2-5-63	4.5	8.0	84	1150	7.9																			2.3	DMR		
3-5-63	11	8.4	83	1043	8.0																			2.1	DMR		
4-2-63	13	7.8	80	1029	8.2																			6.2	DMR		
5-7-63	9.3	8.4	86	1019	8.0																			6.2	DMR		
6-4-63	5.4	8.6	90	1022	8.0																			1.30	DMR		
7-2-63	5.8	9.2	102	1050	7.6																			62	DMR		
9-1-63	2.5	9.0	102	1115	8.1																			5	DMR		
9-4-63	3.1	9.6	105	1164	7.9																			240	DMR		
12-30																									70	DMR	
																										70*	DMR

TABLE D-3  
ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE PROVINCE  
VENTURA RIVER NEAR VENTURA (Station 61)

Date and time of day P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen in ppm	Specific conductance (microhm/cm at 25°C) or pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Hardness as CaCO <sub>3</sub> Total in ppm	Tur- bid- ity in ppm	Analyzed by
					Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fur (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Flu- oride (F)				
Water Year 1962-1963																		
10-2-62	Dry																	
1200	No flow																	
11-13-62	2.6	62	9.6	97.8	860	7.9 <sup>a</sup>												
1520																		
12-5-62	0.5	62	10.8	110	1173	7.5 <sup>a</sup>												
1120																		
1-15-63	1.1	54	10.8	100	1195	7.7												
1250																		
2-5-63	1.5	Not given	8.4	Not given	1218	7.8												
1350																		
3-5-63	3.2	59	9.0	89	1110	7.6												
1350																		
4-2-63	3.4	65	11.2	118	1077	8.2												
1400																		
5-7-63	4.4	61	11.0	111	1097	7.8 <sup>b</sup>	137 6784	33 271	65 2793	276 2793	52 5781	9.0 0.135	0.74 0.04	0.54 0.04	16			
0730																		
6-4-63	3.5	70	9.6	107	1088	7.4												
1200																		
7-2-63	1.4	68	13.2	143	1100	7.4												
1030																		
8-1-63	2.0	68	12.6	133	1098	7.9												
1300																		
9-4-63	0.2	68	13.0	142	1205	7.4	144 7739	36 297	70 3705	337 3705	285 5752	0.5 0.01	0.8 0.04	0.55 0.04	25			
1115																		

AS = 0.00  
PO<sub>4</sub> = 0.00  
ABS = 0.00

PO<sub>4</sub> = 0.11



TABLE D-3

## ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE PROVINCE 11  
SANTA CLARA RIVER AT LOS ANGELES-VENTURA COUNTY LINE (Station 46)

Date and time sampled P.S.T.	Discharges in cfs	Temp in F	Dissolved oxygen ppm	Specific conductance (micromhos at 25°C)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Mineral constituents in equivalents per million						Total dissolved solids in ppm	Hardness based on CaCO <sub>3</sub> Total ppm	Tur- Conform in ppm	Analyzed by	
									Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)					Boron (B)
Water Year 1962-1963																			
10-1-62 0900	0.8	72	9.2	104	3709	7.9 <sup>a</sup>	4.54 19.75	0	387 6.36	2.6 6.09				1.38	1307	998	25	DNR	
11-13-62 1100	1.1	62	9.6	99	3887	8.1 <sup>a</sup>	1.84 21.05	0	421 6.90	20.3 5.72				1.30	1336	991	25	DNR	
12-4-62	0.9	66	7.6	77	1140	7.7 <sup>a</sup>	75 31.26	0	246 4.704	66 1.96				1.62	465	263	25	DNR	
1-14-63 1110	1.5	58	11.2	109	3597	8.0	371 16.74	0	405 6.64	174 4.91				1.22	40	1190	958	25	DNR
2-4-63 1210	1.6	68	9.6	105	3238	7.7	370 16.10	0	353 5.78	170 4.79				1.05	43	1076	781	25	DNR
3-4-63 1000	1.2	48	8.0	69	3118	6.8	353 15.36	0	427 7.00	352 4.28				1.22	42	1073	723	25	DNR
4-3-63 1030	1.5	64	9.4	98	2925	7.0	294 12.80	0	426 6.98	131 3.69				0.88	38	1066	717	185	DNR
5-8-63 1100	3.9	70	9.6	98	2595	7.2	254 11.05	6.9 0.18	410 6.72	1040 21.27				1.1 0.70	2081	985	25	DNR	
6-4-63 1745	2.2	70	9.8	109	3270	7.0	355 15.44	0	407 6.65	174 4.91				1.16	38	1240	906	25	DNR
7-2-63 1520	1.2	84	10.2	131	3340	7.6	392 17.05	0	365 5.98	212 5.98				1.15	40	1260	901	25	DNR
8-1-63 1900	0.40	84	9.6	123	4327	8.2	550 23.98	0	393 6.44	260 7.33				2.14	43	1460	1134	25	DNR
9-4-63 1800	0.60	68	10.0	109	3623	8.0	257 12.32	8.0 0.20	403 6.60	1565 32.60				1.4 0.07	3040	1257	92	25	DNR

PO<sub>4</sub> = 0.0  
ABS = 0.025PO<sub>4</sub> = 0.00

TABLE D-3  
ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE PROVINCE U  
SANTA CLARA RIVER NEAR SANTA PAULA (Station 469)

Date sample collected P.S.T.	Discharge Temp. in cfs	Specific conductance µmhos/cm at 25°C	Dissolved oxygen ppm	pH	Mineral constituents in parts per million												Total dissolved solids in ppm	Hardness on CaCO <sub>3</sub> Total ppm	Tur- bid- ity N.P.M.	Coriform b MPN/mi	Analyzed by										
					Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)	Boron (B)	Silico (SiO <sub>2</sub> )						Other constituents									
Water Year 1962-1963																															
10-1-62 1205	20 est.	2381	9.6	8.18	104 8744	0	333 5466	0	93 2462																						
11-13-62 1310	30 est.	2237	10.0	7.68	174 7.57	0	336 5750	0	80 2286																						
12-4-62 1330	30 est.	2159	10.8	7.98	150 6.58	0	338 5756	0	80 2286																						
1-14-63 1425	30 est.	2126	9.6	7.7	163 7.09	0	336 5750	0	78 2280																						
2-4-63 1435	35 est.	2105	9.2	8.0	169 7.35	0	332 5744	0	80 2286																						
3-4-63 1420	30 est.	1956	9.0	7.8	150 6.53	0	303 4756	0	74 209																						
4-3-63 0725	30 est.	1306	9.8	7.8	92 4700	0	248 4706	0	37 1704																						
5-7-63 1600	35 est.	2513	9.2	7.8	233 1031	0	366 6700	0	94 2785	1050 2188																					
6-4-63 1600	35 est.	2430	9.8	7.8	201 874	0	310 5708	0	95 2783																						
7-2-63 1300	30 est.	1750	9.4	7.9	141 6113	0	267 4738	0	75 2112																						
8-1-63 1000	10 est.	1970	9.2	8.2	170 7400	0	321 5785	0	90 2744																						
9-4-63 1500	18 est.	1973	9.4	7.9	169 735	0	331 5472	0	96 2771	709 1477																					

PO<sub>4</sub> = 0.05  
AB<sub>3</sub> = 0.08

PO<sub>4</sub> = 0.00  
AB<sub>3</sub> = 0.06

PO<sub>4</sub> = 0.00  
AB<sub>3</sub> = 0.04

TABLE D-3

## ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE PROVINCE U

PIFU CREEK NEAR PIFU (Station 46c)

Date one time sample P.S.T.	Discharge Temp in cfs in deg F	Dissolved oxygen ppm	Specific conductance in deg C	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Par- ticle load in ppm	Tur- bidity in ppm	Analyzed by C				
					Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)					Boro- n (B)	Silica (SiO <sub>2</sub> )	Other constituents	Hardness as CaCO <sub>3</sub> Total ppm
Water Year 1962-1963																						
10.1-62 0935	15 est.	9.2 100	1107	7.9 <sup>a</sup>	72 3.13					0 0.00	224 3.63		23 0.65				25	462	278	<25	6.2 24	DWR
11-13-62 1140	15 est.	10.4 103	1306	8.0 <sup>a</sup>	174 7.57					0 0.00	272 4.46		25 0.71				29	535	312	<25	13 23	DWR
12-4-62 1155	15 est.	10.8 105	1455	8.0 <sup>a</sup>	100 4.35					0 0.00	276 4.36		31 0.87				27	596	370	<25	13 70	DWR
1-4-63 1145	12 est.	12.0 106	1417	8.3 <sup>a</sup>	102 4.74					14 0.715	259 4.20		34 0.96				27	594	358	<25	2.3 3.2	DWR
2-4-63 1255	15 est.	10.8 108	1324	8.2	96 4.13					0 0.00	249 4.08		31 0.87				29	509	305	<25	13	DWR
3-4-63 1150	15 est.	9.0 77	1555	8.2	126 5.44					0 0.00	318 5.22		34 0.96				32	581	350	<25	23 1.3	DWR
4-3-63 0930	35 est.	10.4 98	997	8.2	59 2.57					0 0.00	212 3.43		19 0.54				24	403	229	<25	62 62	DWR
5-7-63 1800	10 est.	9.8 100	1129	8.4	79 3.74					0 0.00	234 3.54		23 0.65				28	443	251	<25	23 62	DWR
6-4-63 1715	5 est.	10.2 111	1666	8.0	123 5.35					0 0.00	276 4.36		38 1.07				29	662	436	<25	23 240	DWR
7-2-63 1450	10 est.	9.0 115	1509	7.9	134 5.83					0 0.00	265 4.34		36 1.02				32	610	393	<25	62 240	DWR
8-1-63 1830	4 est.	9.2 120	1461	8.4	141 6.13					0 0.00	173 2.84		41 1.16				38	500	358	<25	5 240	DWR
9-4-63 1700	10 est.	9.6 107	1533	8.2	60 4.34					0 0.00	298 4.63		35 0.99				33	579	335	<25	24 70+	DWR

TABLE D-3  
ANALYSES OF SURFACE WATER

LOS ANGELES SEWAGE TREATMENT PLANT

SEIFE CREEK NEAR FILLMORE (Station 164)

Date and time sampled P.S.T.	Discharge Temp in cfs	Dissolved oxygen in ppm	Specific Conductance (microhm/cm at 25°C)	Mineral constituents in parts per million										Total dissolved solids in ppm	Percent total solids in ppm	Hardness as CaCO <sub>3</sub> Total in ppm	Total Chlorinity in ppm	Analyzed by C			
				Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)						Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents
Water Year 1962-1963																					
10-1-62	0.7	13.0	154	1328	0.28 <sup>a</sup>	0	159	75	2.12	1.74	3.0	2.00	0	0.00	0	32	490	360	25	4.6	DMR
10-5						4.92	2.00	2.12	2.00	2.12	2.12	2.12	2.12	2.12	2.12	33	462	320	25	0.6	DMR
11-13-62	0.3	14.4	146	1307	8.1 <sup>a</sup>	0	173	2.0	2.74	1.75	2.74	2.74	2.74	2.74	33	441	331	25	0.6	DMR	
12-4-62	2.2	15.0	159	1336	7.9 <sup>a</sup>	0	183	9.7	2.74	1.88	2.74	2.74	2.74	2.74	34	509	335	25	2.3	DMR	
12-20						8.74	3.00	2.74	2.74	2.74	2.74	2.74	2.74	2.74	33	471	299	25	0.6	DMR	
1-14-63	1.3	14	123	1442	8.2 <sup>a</sup>	1.80	2.12	2.12	2.12	1.22	1.22	1.22	1.22	1.22	33	422	247	25	6.2	DMR	
2-4-63	1.1	10.6	106	1336	7.9	1.09	2.14	6.9	1.95	1.22	1.22	1.22	1.22	1.22	33	422	247	25	2.3	DMR	
3-4-63	1.8	9.4	85	1202	8.2	4.22	3.13	3.13	3.13	1.22	1.22	1.22	1.22	1.22	33	422	247	25	2.3	DMR	
4-3-63	4.0	11.2	98	1099	8.2	7.3	2.6	2.6	2.6	0.90	0.90	0.90	0.90	0.90	28	418	244	25	13	DMR	
0-25						3.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32	335	193	90	2.3	DMR	
5-7-63	1.4	11.6	113	926	8.0	7.3	2.6	2.6	2.6	0.99	0.99	0.99	0.99	0.99	32	335	193	90	2.3	DMR	
1706						4.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31	400	247	25	1.3	DMR	
6-4-63	3.2	11.0	112	1072	8.2	2.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31	400	247	25	700	DMR	
1645						3.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31	400	247	25	700	DMR	
7-2-63	0.5	13.0	161	1543	7.8	1.18	0	0	0	0	0	0	0	0	27	694	593	25	62	DMR	
1345						5.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27	694	593	25	62	DMR	
8-1-63	0.4	10.0	120	1094	8.5	1.20	0	0	0	0	0	0	0	0	45	312	166	25	2.3	DMR	
1900						3.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	45	312	166	25	2.3	DMR	
9-4-63	0.4	10.4	119	1092	8.4	1.19	3.4	3.4	3.4	1.55	2.45	1.00	1.00	1.00	47	290	143	25	0.45	DMR	
1600						3.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47	290	143	25	0.60	DMR	

## ANALYSES OF SURFACE WATER

LOS ANGELES BEAVERIDGE PROVINCE  
SANTA PAULA CREEK NEAR SANTA PAULA (Station 46c)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen in ppm	Specific Conductance in micromhos at 25°C	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Per- limum	Head- press as CaCO <sub>3</sub> Total in ppm	Tur- bidity in ppm	Col- or in mup/m	Analy- ses by %
						Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)						
Water Year 1962-1963																					
10-1-62	1.9	72	12.8	142	1039	8.1 <sup>a</sup>	95	0	227	59	0.48	38	34.1	155	<25	0.6	DMR				
1235							4.13	0.00	3.72	1.06						2.3					
11-13-62	1.9	62	11.6	118	1110	7.1 <sup>a</sup>	99	0	271	63	0.46	36	377	155	<25	2.3	DMR				
1340							4.31	0.00	4.14	1.78						1.3					
12-4-62	3.6	62	10.8	110	1140	7.3 <sup>a</sup>	93	0	276	61	0.41	34	392	166	<25	0.45	DMR				
1430							4.05	0.00	4.52	1.72						0.45					
1-14-63	3.6	48	11.2	96	1128	8.1	94	0	293	60	0.42	34	405	165	<25	2.3	DMR				
1515							4.09	0.00	4.80	1.09						0.2					
2-4-63	4.4	65	10.8	114	1208	8.2	107	0	262	73	0.53	37	368	173	<25	6.2	DMR				
1800							4.65	0.00	4.30	2.00						5.0					
3-4-63	4.4	60	10.4	104	1078	8.2	90	0	264	54	0.45	34	376	160	<25	24.0	DMR				
1625							3.92	0.00	4.32	1.52						7.00					
4-3-63	127	43	11.6	100	911	8.0	62	0	243	35	0.22	29	326	127	<25	62	DMR				
1550							2.70	0.00	3.94	0.99						23					
5-7-63	9	55	11.4	107	766	8.0	55	1.4	1.4	27	0.62	30	275	115	<25	4.5-	DMR				
1640							2.39	0.03	0.00	0.76	0.703					4.5-					
6-4-63	2.8	64	11.0	115	858	8.4	70	1.9	0.00	4.3	0.62	506	30	275	115	<25	13	DMR			
1530							3.47	0.05	0.00	4.53	0.703					6.2					
7-2-63	3.0	74	13.6	158	946	7.8	74	2.3	0.00	2.3	0.65	644	35	332	141	<25	1.3	DMR			
1230							3.09	0.06	0.00	4.45	0.703					5					
8-1-63	2.4	76	11.4	134	929	8.5	66	2.0	0.00	2.0	0.76	39	300	136	<24	24.0	DMR				
1700							3.02	0.05	0.00	4.73	0.703					2					
9-4-63	0.5	69	11.8	130	1305	8.4	110	5.0	0	32	0.61	40	424	154	<25	70	DMR				
1430							5.76	0.13	0.00	5.77	0.703					70+					

TABLE D-3  
ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE PROVINCE  
LOS ANGELES RIVER AT FIGUEROA STREET (Station 47)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Hardness as CaCO <sub>3</sub> Total N.C. ppm	Tur- bid- ity in f.p.m.	Coliform MPN/ml	Analyzed by C
						Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fide (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)					
Water Year 1962-63																				
11-7-62	0.1	64	6.50	68.5	8.2	112	87	446.2	0	240	621.4	640	7	2.0	1977	400	950	WMD		
1100																				
12-5-62	0.03	57	6.64	64	8.1	112	83	598	40	350	519.5	670	2	1.2	1820	350	6-64 64	WMD		
1030																				
1-9-63	+ Flow	63	7.5	77	8.1	114	90	445	0	375	518	630	0		1870			LADPH		
1200																				
2-5-63	Trace	60	4.56	45	8.4	110	536.2	2340	35	140	415.6	550	5		1870			LADPH		
1000																				
3-6-63	+ Flow	65	11.12	117	8.2	84	92.5	460	75	225	436.2	490	2.0	1.4	1909		2.3	LADPH		
1045																				
4-3-63	0.16	63	18.0	195	8.4	78	53.5	947.6	100	230		390	0	0.5	1441			LADPH		
1045																				
5-8-63	0.10	70	12.2	131	8.2	69	15	321	14	241	422	360	1.6	1.8	437	331	109	23	DMR	
1815																				
6-5-63	0.10	69	14.24	157	8.3	78	84	496.8	140	165	515.5	490	3	1.1	1687		2.3	LADPH		
1040																				
7-3-63	0.10	80	13.12	162	8.4	82	59.5	493	80	250	442.5	530	1.0	1.2	2745		430	LADPH		
1130																				
8-7-63	+ Flow	71	4	37	7.6	116	86.5	391	20	320	469.1	460	3.0	1.0	1787		High 11000+	LADPH		
1020																				
9-5-63	8.7	81	10.3	135	7.1	60	15	70	0	171	146	42	13	0.40	522	41	210	70	500	
1345																				7000

TABLE D-3

## ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE PROVINCE, U.  
LOS ANGELES RIVER AT PACIFIC COAST HIGHWAY (Station 48)

Date sampled P.S.T.	Discharge in cfs in day	Temp in day	Dissolved oxygen ppm	Specific conductance micromhos at 25°C	pH	Mineral constituents in parts per million										Total dis- solved solid in ppm	Per- cent soli- dium in ppm	Hardness as CaCO <sub>3</sub> Total ppm	Tur- bidity in fpm	Tot- al Coliform <sup>b</sup> MPN/ml	Analyzed by c				
						Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbon- dioxide (CO <sub>2</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)							Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents	
Water Year 1945-1945																									
10-7-62 0750	15.4	74	1.2	14.993	7.8 <sup>b</sup>	230 11,743	118 3,770	3150 13,703	39 1,700	0 0.00	554 3,703	202 4,720	5175 14,524	3.0 0.05	0.82 0.705	10	29	9800	85	1056	602	< 25	68 246	DWR	
11-7-62	14.6	68	Net available	7.3 <sup>b</sup>		216	152	3000		0.00	3.08	471	5300	0				9550						> 700000	LEDPFH
12-5-62 1030	13.8	61		7.6 <sup>b</sup>		202	183	3000		0.00	284	446	4650	0.2				9750							LEDPFH
1-9-63 1100	13	64	0	7.6		275 13,772	340 27,375	4800 203,5		0.00	240 3,374	904 13,770	8150 23,705	0.2 0.7003				16340						2400	LEDPFH
2-6-63 1000	12.1	63	0.6	7.7		272 13,267	522 42,500	4,700 204,5		0.00	250 4,710	912 13,395	7610 21,413	1.9 0.703				15730						6200	LEDPFH
3-6-63 2300	11.1	66	1.9	8.1		380 13,593	445 34,075	5600 227,0		0.00	352 5,350	10610 29,820	0 0.00					21						24	LEDPFH
4-3-63 1030	16.2	66	1.6	7.9		183 9,111	75 6,117	2150 93,6		0.00	241 3,395	230,5 4,770	3209 30,760	0 0.700				6777						500	LEDPFH
5-8-63 1345	11.5	78	9.0	20.370	8.4	267 13,300	131 10,715	4340 185,7	39 1,700	0.00	468 7,653	120 2,511	7075 17,735	18 0.29	1.15 0.706	13.0	52	12732	88	1204	880	100	230 60	2400	DWR
6-5-63 1000	10	75	0.4	4.1	7.6	273 13,228	230 15,390	3500 132,3		0.00	316 5,113	207 4,312	5810 15,170	1.15 0.702				10950						24000	LEDPFH
7-10-63 1050	14.6	73	0	7.6		275 13,772	375 30,311	3523 132,3		0.00	333 5,112	301 7,352	7235 21,730	0 0.700				13500						2.1	LEDPFH
8-7-63 1010	19.4	77	0	7.5		337 16,730	190 15,610	4950 213,7		0.00	393 6,144	196 4,706	8220 23,310	0.06 0.701				15976						24	LEDPFH

TABLE D-3

ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE DISTRICT

LOS ANGELES RIVER AT PACIFIC COAST HIGHWAY (Station 4.9)  
(continued)

Date and time sampled PST	Discharge Temp in °F	Dissolved oxygen ppm	Specific conductance at 25°C	Mineral constituents in parts per million equivalents per million										Total dissolved solids in ppm	Per cent sulfur	Hardness as CaCO <sub>3</sub> Total T.C. in ppm	Tur- bid- ity in ppm	Analysed by					
				Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)						Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents		
Water Year 1960-1963 (continued) 9-5-63 1400	59	3.5	47	15030	7.8	200	114	2957	35	0	410	85	4960	76	10.8	28	9507	36	982	60	7000	7000	
						10.23	97.36	1257.6	0.90	0.00	6.72	1.78	1387.9	1.83									
<p>Cr<sup>+6</sup> = 0.0                      PO<sub>4</sub> = 277                      AS = 0.17                      MS = 2.72                      NH<sub>4</sub> = 2.9                      Alkalinity = 4.98                      Phenols = 0.15</p>																							



TABLE D-3

## ANALYSES OF SURFACE WATER

LOS ANGELES COUNTY WATER VEGET. U

RFO HONDO AT WHITTIER MARROWS (Station 49)

Date and time of day of P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen in ppm	Specific conductance at 25°C (micromhos)	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent solid - Total	Hardness as CaCO <sub>3</sub> Total	Temp. in °F	Conformity MPN/m	Analyzed by	
					Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)							Boron (B)
Water Year 1962-1963																					
10-3-62	150	78	7.6	31	1125	7.9 <sup>R</sup>		100 4.35		0	145 2.33	301 2.27	94 2.05			0.113	341	222	< 25	240 240	DHR
11-3-62	3.4	62	6.0	61.1	952	7.6 <sup>R</sup>		77 3.35		0	243 3.95	66 1.75				0.22	315	116	< 25	23 130	DHR
12-4-62	38.6	62	9.6	98	1178	7.9 <sup>R</sup>		102 4.14		0	163 2.68	302 2.71	96 2.11			0.13	356	222	< 25	6.2 13.0	DHR
1-10-63	15	52	10.0	90	1190	7.7		136 5.92		0	174 2.56	298 2.79	99 2.79			0.14	286	143	< 25	240	DHR
2-7-63	8	69	6.4	71	1144	7.4		113 4.72		0	262 4.30	295 4.62	91 2.57			0.27	334	121	< 25	700	DHR
3-7-63	17.8	58	6.4	62	1171	8.0		133 5.79		0	179 2.92	287 2.74	97 2.74			0.17	276	130	< 25	50 62	DHR
4-4-63	17.0	60	10.8	101	1158	8.2		114 4.96		0	159 2.60	308 2.41	95 2.68			0.11	333	203	< 25	700	DHR
5-9-63	4.0	66	9.0	96	887	8.0		21 1.73	7.4 0.19	0	239 3.92	161 1.36	68 1.92	1.5 0.02		0.26	294	88	< 25	6.2 21	DHR
5-5-63	4.0	68	9.4	102	1128	7.8		104 4.52		0	295 4.68	221 4.60	89 2.51			0.39	369	135	< 25	700 700+	DHR
7-2-63	5.2	74	10.0	110	786	7.0		71 3.09		0	207 3.40	88 1.93	64 1.90			0.19	292	82	< 25	700+ 62	DHR
9-2-63	1.6	86	9.0	118	1152	8.4		95 4.13		0	246 4.04	250 2.21	98 2.76			0.40	361	159	< 25	240 130	DHR
9-5-63	14.0	77	8.6	102	1030	8.5		20 1.61	9.6 0.25	0	195 3.04	213 4.54	88 2.43	24 0.33		0.40	295	143	< 25	700+ 700+	DHR

TABLE D-3

## ANALYSES OF SURFACE WATER

LOS ANGELES SEWAGE TREATMENT PLANT

RIO HONDO ABOVE SPREADING GROUNDS (Station 496)

Date and time sampled P.S.T.	Discharge Temp. in °F	Dissolved Oxygen		Specific conductance at 25°C or 25°C	pH	Mineral constituents in parts per million							Total dissolved solids in ppm	Per cent sodium in ppm	Hardness as CaCO <sub>3</sub> Total in ppm	Total in ppm	Coliform MPN/ml	Acquired by °C				
		ppm	% Sat.			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )							Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)	Bromide (Br)
Winter Year 1962-1963																						
5-9-63 0900	14.3	76	8.0	94	7.9	50 2.50	20 1.50	120 5.22	15 0.38	0 0.00	0 0.00	266 4.36	123 2.57	97 2.74	1.5 0.02	1.12 0.08	0.56 0.04	20 0.56	54 505	25 240	23 240	DRR
6-5-63 0900	11 est.	70	8.2	91	8.2	47 2.35	24 1.97	122 5.31	14 0.36	0 0.00	0 0.00	256 4.28	141 2.99	106 2.71	2.6 0.04	1.7 0.09	0.58 0.04	11 0.31	55 637	25 240	62 240	DRR
7-2-63 2000	100 est.	77	9.0	107	8.2	58 2.59	23 1.93	116 5.05	7.3 0.19	0 0.00	0 0.00	242 3.96	119 2.43	96 2.71	17 0.27	2.8 0.15	0.58 0.04	28 0.74	52 611	25 226	6.2 6.2	6.2 DRR
8-2-63 1300	20 est.	83	7.8	100	7.5	47 2.35	20 1.59	133 5.79	14 0.36	0 0.00	0 0.00	190 3.12	133 2.77	111 3.13	25 0.40	1.8 0.09	0.74 0.09	27 0.76	57 650	25 41	45 45	DRR
9-5-63 2030	1 est.	72	6.0	68	8.4	40 2.45	17 1.41	106 4.01	13 0.33	0 0.00	0 0.00	232 3.66	95 1.99	94 2.05	23 0.37	1.1 0.06	1.1 0.06	25 0.76	52 573	25 193	700+ 700+	DRR

This station was officially entered into the program on July 1, 1963

AS = 0.00; PO<sub>4</sub> = 14

ABS = 1.04

BR<sub>4</sub> = 0.7; PO<sub>4</sub> = 22

TABLE D-3

## ANALYSES OF SURFACE WATER

IAS ALUMINUM PRODUCTION FACILITY

MISSION CREEK AT WHITTIER NARROWS (Station 49A)

Date and time of day and wind direction	Discharge Temp in cfs	Dissolved oxygen in % Sat	Specific conductivity (micromhos at 25°C)	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium in ppm	Hardness as CaCO <sub>3</sub> Total in ppm	Turbidity in MPN/ml	Analyzed by					
					Calcium (Ca)	Magne- sum (Mg)	Sodium (Na)	Potas- sum (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)						Boron (B)	Silico- (SiO <sub>2</sub> )	Other constituents		
Water Year 1962-1963																								
10-3-62 1045	1.1	6.8	76	434	7.3 <sup>B</sup>		16	0.70		0	177	10	0.28		0.00		15	191	46	< 25	62	DHR		
11-13-62 0825	1.6	9.2	100	542	7.5 <sup>A</sup>		16	0.70		0	215	10	0.28		0.09		16	249	73	< 35	21	240	DHR	
12-4-62 0945	2.0	8.8	84	592	7.5 <sup>A</sup>		17	0.74		0	232	13	0.37		0.05		12	275	85	< 25	13	23	DHR	
1-16-63 0940	1.6	9.6	75	592	7.7		18	0.79		0	231	15	0.42		0.04		12	282	93	< 25	23	23	DHR	
2-7-63 1515	1.7	9.2	97	573	7.8		18	0.79		0	229	13	0.37		0.07		14	249	61	< 25	62	240	DHR	
3-7-63 1120	1.6 "	7.0	67	616	8.1		20	0.87		0	235	15	0.42		0.07		14	271	78	< 25	62	62	DHR	
4-4-63 0915	1.8	9.6	96	645	7.8		23	1.00		0	233	16	0.45		0.04		15	279	88	< 25	700+	130	DHR	
5-9-63 1015	1.0	9.0	96	887	8.0	7.4	80	3.43	0.19	0	239	68	1.5	1.30	0.26	23	37	284	88	< 25	6.2	21	DHR	
6-5-63 0930	0.17	9.8	105	554	7.9		20	0.87		0	212	15	0.42		0.07		14	256	82	< 25	500	50	DHR	
7-2-63 2030	Dry	No flow																						
8-2-63 1220	Dry	No flow																						
9-5-63 1945	Damp	No flow																						

TABLE D-3  
ANALYSES OF SURFACE WATER

LOS ANGELES DISTRICT, DIVISION 3  
SAN GABRIEL AT AZUSA POWER HOUSE (Station 44)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen in % Sat	Specific conductance (microhms/cm at 25°C)	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Hardness Total (CaCO <sub>3</sub> ) in ppm	Tur- bid- ity in ppm	Coliforms MPN/ml	Analyzed by										
						Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fide (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Flu- oride (F)						Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents							
Water Year 1962-1963																														
10-3-62	82	68	8.8	6	7.7 <sup>a</sup>			1.3 0.57						214 3.50					5	0.14			1.3	167	12	<25	0.45 0.6	DMR		
11-14-62	80	60	10.0	7.5	8.0 <sup>a</sup>			1.2 0.52						262 4.30					4	0.11			220	12	220	5	<25	0.6	DMR	
12-3-62	80	56	10.4	9.9	7.9 <sup>a</sup>			1.2 0.52						260 4.20					3	0.03			220	11	220	7	<25	0.6	DMR	
1-9-63	80	52	12	10.3	7.6			1.4 0.61						250 4.10					6	0.17			12	218	13	<25	0.46 0.6	DMR		
2-6-63	8	58	10.4	10.1	8.0			1.4 0.61						24.0 4.10					5	0.14			13	200	0	<25	0.45 0.6	DMR		
3-7-63	Dry																													
4-4-63	80	56	11.0	10.0	8.0			1.4 0.61						206 3.38					5	0.14			15	175	6	<25	24.0 23	DMR		
5-9-63	80	56	11.2	10.5	8.0			1.2 0.52						21.2 3.48					6	0.17			12	189	15	<25	24.0 13	DMR		
6-5-63	37	64	10.8	12.3	7.8			1.4 0.61						21.7 3.56					6	0.17			14	194	16	<25	6.2 6.2	DMR		
7-2-63	37	65	11.2	11.8	8.0			1.3 0.57						21.7 3.56					5	0.14			13	195	17	<25	4.5 5	DMR		
8-2-63	37	72	8.0	9.1	8.2			1.5 0.65						21.6 3.54					4	0.11			15	196	9	<25	24.0 50	DMR		
9-6-63	37	72	9.2	10.4	8.2			1.5 0.65						22.7 3.72					3	0.03			268	14	194	8	<25	4.5 4.5	DMR	

TABLE D-3

## ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE PROVINCE

SAN GABRIEL RIVER AT WHITTIER NARROWS (Station 90)

Date and time sampled P.S.T.	Discharge Temp in cfs in °F	Dissolved oxygen in ppm	Specific conductance in $\mu$ mhos/cm at 25°C	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent total in $\mu$ m	Hardness as CaCO <sub>3</sub> Total in ppm	Tur- Coliforms in 100 ml	Analysed by C		
					Calcium (Ca)	Magnesium (Mg)	Sodium sum (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)						Bromide (Br)	Silica (SiO <sub>2</sub> )
Water Year 1962-1963																					
10-3-62 1085	100 est.	8.8	104	1139	8.2 <sup>a</sup>			109 4,74		0 0.00	143 2,33	309 6,44	96 2,71		0.13		343 226	< 25	62 50	DMR	
11-13-62 0815	100 est.	9.2	100	1141	8.2 <sup>a</sup>			97 4,228		0 0.00	149 2,44	95 2,768	95 2,768		0.12		348 226	< 25	62 50	DMR	
12-4-62 0820	100 est.	10.4	101	1162	7.7 <sup>a</sup>			102 4,14		0 0.00	153 2,50	305 6,35	94 2,75		0.11		353 228	< 25	62 2.0	DMR	
1-10-63 0955	DRY No flow																				
2-7-63 1000	149	10.4	101	1147	8.2			107 4,765		0 0.00	155 2,54	307 6,40	96 2,71		0.09		200 0	< 25	0.45- 0.6	DMR	
3-7-63 1230	DRY No flow																				
4-4-63 1030	140	12.4	128	1150	8.4			113 4,592		0 0.00	156 2,56	305 6,35	95 2,705		0.11		333 205	< 25	7000 62	DMR	
5-9-63 1100	DRY No flow																				
6-5-63 1000	DRY No flow																				
7-2-63 2030	DRY No flow																				
8-2-63 1200	DRY No flow																				
9-5-63 1930	Damp No flow																				

TABLE D-3  
ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE PROVINCE U

LOS ANGELES AQUEDUCT NEAR SAN FERNANDO (Station 70)

Date and time sampled P.S.T.	Discharge Temp in °F	Dissolved oxygen ppm	% Sat	Specific conductance at 25°C	pH	Mineral constituents in equivalents per million							Total dissolved in ppm	Hardness as CaCO <sub>3</sub> Total ppm	Turbidity in ppm	Coliforms /100 ml	Analyzed by						
						Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )						Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)	Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents
Water Year 1962-1963																							
10-16-62	4.94	8.6 <sup>a</sup>		395	8.48 <sup>b</sup>	27	6.8	4.0	4.3	--	--	28	1.9	0.6	0.60	0.51	24		--	--	5	.082 .051 .066	LADMP
11-13-62	347.1	9.6 <sup>a</sup>		313	8.38 <sup>a</sup>	22	4.6	2.9	3.8	--	--	20	1.6	0.6	0.63	0.44	22		--	--	8	0.92 0.51 0.16	LADMP
12-18-62	475	10.0 <sup>a</sup>		296	8.40 <sup>a</sup>	22	4.1	3.3	3.6	--	--	1.9	1.5	0.5	0.52	0.45	22		--	--	5	.022 .051 .051 .092	LADMP
1-15-63	486	12.0	97	294	7.96	22	3.9	3.5	3.7	21	0.75	0.75	0.72	0.5	0.60	0.54	22		72	5	.051 .022	LADMP	
2-27-63	203	10.2	94	339	9.04	27	6.8	31	3.8	29	0.80	0.52	0.70	2.0	0.51	0.48	24		96	3	.092 .000	LADMP	
3-19-63	414	10.4	92	353	8.24	24	7.3	4.0	5.7	37	0.78	0.52	0.70	0.1	0.58	0.44	22		90	9	0.16 0.051 0.051	LADMP	
4-16-63	401.1	9.8	90.5	336	8.12	24.8	5.4	36.3	4.6	27	0.57	0.51	0.70	0.4	0.56	0.44	21		84	8	16.0 9.2 9.2	LADMP	
5-21-63	401.1	9.8	111	336	8.12	25	5.4	36	4.6	27	0.57	0.51	0.70	0.4	0.56	0.44	21		94	8	16.0 10.0 16.0 2.2	LADMP	

TABLE D-3

## ANALYSES OF SURFACE WATER

LOS ANGELES TRAILBLAZER PROVINCE U  
LOS ANGELES AQUEDUCT NEAR SAN FERNANDO (Station 70)  
(continued)

Date and time sampled PST	Dissolved Temp in cts	Dissolved oxygen ppm % Sat	Specific Conductance (micrograms at 25°C)	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Hardness as CaCO <sub>3</sub> Total in ppm	Turbidity in nephelometric units	Coliforms per 100 ml	Analysed by
				Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluor- ide (F)					
Water Year 1962-1963 (continued)																		
6-18-63	493	8.2	315	22 171	5.4 0.46	32 174	3.8 0.10	22 0.45	17 0.48	0.00 0.00	0.44 0.02	0.59 0.22	Fe = 0.05 AS = 0.007 N = 0.10	76	6	5-1 2-2	LADMP	
7-23-63	495	8.7	276	19 170	3.4 0.3	25 171	3.1 0.08	23 0.50	12 0.32	0.3 0.1	0.47 0.03	0.33 0.18	Fe = 0.06 AS = 0.013 N = 0.28 5-day BOD = 1.8	62	5	0.0 0.0	LADMP	
8-20-63	495.3	8.6	241	18 0.9	3.9 0.3	26 171	3.4 0.09	21 0.45	12 0.32	0.6 0.02	0.34 0.02	0.30 0.17	Fe = 0.04 AS = 0.007 NH <sub>4</sub> = 0.01 5-day BOD = 1.4	62	9	0.0 0.0	LADMP	
9-17-63	495.3	7.6	234	19 170	3.4 0.3	24 170	2.9 0.07	21 0.45	11 0.30	0.4 0.01	0.32 0.02	0.30 0.18	Fe = 0.03 AS = 0.002 NH <sub>4</sub> = 0.01 5-day BOD = 2.1	62	6	5-1 0.0	LADMP	





TABLE D-3

## ANALYSES OF SURFACE WATER

LOS ANGELES DRAINAGE PROVINCE U

COLORADO RIVER AQUEDUCT AT LA VERNE (Station 69)  
(continued)

Date and time sampled P.S.T.	Discharge Temp. in deg. F.	Dissolved oxygen ppm	%Sat	Specific conductance at 25°C	pH	Mineral constituents in parts per million											Total dissolved solids in ppm	Per cent sulfurium in ppm	Hardness as CaCO <sub>3</sub> Total N.C. ppm	Turbidity in ppm	Turbidity - Conform by C	Analyzed by C
						parts per million																
						Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)	Boron (B)						
Water Year 1962-1963 (continued)																						
July Composite Sample				1090	8.1	57 4.3%	29 2.3%	101 4.3%	6 0.1%	0	139 2.2%	307 6.3%	92 2.5%	1.6 0.0%	0.4 0.0%			337	223	0.5		MWD
August Composite Sample				1175	8.0	83 4.3%	28.5 2.3%	102 4.4%	5 0.1%	0	120 2.1%	300 6.2%	92 2.5%	1.2 0.0%	0.4 0.0%			324	218			MWD
September Composite Sample				1060	8.1	79 3.9%	29 2.3%	97 4.2%	5 0.1%	0	124 2.0%	295 6.1%	88 2.4%	0.9 0.0%	0.4 0.0%			317	215	0.5		MWD

TABLE D-4  
ANALYSES OF SURFACE WATER

LAKEONTARIO DRAINAGE PROVINCE, W.

MOJAVE RIVER AT THE FORKS (Station 676)

Date on time sampled P.S.T.	Discharge Temp in °F	Dissolved oxygen ppm	pH	Mineral constituents in equivalents per million										Total dis- solved solids in ppm	Per- cent solids in ppm	Hardness as CaCO <sub>3</sub> Total, N.C. ppm	Tur- bidity in ppm	Coliform b MPN/m	Analyzed by c	
				Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)							Boron (B)
Water Year 1962-63																				
10-1-62 1330	70	7.6	85	565	7.7 <sup>a</sup>	71 3.7													62 23	DWR
11-5-62 1040	58	8.4	81.7	443	7.5 <sup>a</sup>	62 2.70													700 100	DWR
12-3-62 1435	60	8.4	83	472	7.3 <sup>a</sup>	43 1.87													230 6	DWR
1-10-63 1145	48	10.0	86	332	7.2	38 1.65													4.5 4.5	DWR
2-6-63 1045	51	10.0	89	311	7.8	37 1.61													23 62	DWR
3-6-63 1120	50	9.8	86	293	7.8	32 1.39													700 23	DWR
4-5-63 0830	52	10.8	94	220	8.0	21 0.91													62 62	DWR
5-9-63 1800	61	10.4	105	217	8.0	24 0.90	1.4 0.04												62 62	DWR
6-5-63 1430	68	10.0	109	311	7.8	38 1.65													6.2 6.2	DWR
7-1-63 1050	70	8.0	89	371	7.4	46 2.00													23 6.2	DWR
8-5-63 1200	74	8.4	97	410	7.2	53 2.31													700+ 700+	DWR
9-6-63 1200	73	9.0	103	507	7.1	76 3.31	3.2 0.08												62 62	DWR

TABLE D-4

ANALYSES OF SURFACE WATER  
LAKEONTAN DRAINAGE PROVINCE, N

MOHAVE RIVER NEAR VICTORVILLE (Station 67)

Date and time sampled P.S.T.	Discharge in cfs in 60" pipe	Temp in 60" pipe	Dissolved oxygen ppm	Specific conductance (at 25°C)	Mineral constituents in parts per million										Total dissolved solids in ppm	Percent total hardness as CaCO <sub>3</sub>	Turbidity in ppm	Coliforms by C
					Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)				
Water Year 1962-63																		
10-1-62	15.4	70	7.2	80	472	7.8												
1215																		
11-5-62	21	64	7.1	75.4	478	7.5												
1230																		
12-3-62	21	60	7.4	83	472	7.3												
1600																		
1-10-63	30	56	8.8	84	451	8.1												
1300																		
2-4-63	35	40	8.8	68	437	7.6												
0925																		
3-2-63	32	60	7.4	78	459	8.0												
0900																		
4-5-63	28	56	9.6	91	458	7.6												
0900																		
5-2-63	24	60	9.6	91	459	7.9												
1815																		
6-5-63	18	66	9.0	96	479	7.6												
1600																		
7-1-63	15	72	9.2	104	489	7.4												
0930																		
8-5-63	13.5	73	9.0	103	494	7.8												
1100																		
9-2-63	14	71	8.6	97	515	8.0												
1600																		

TABLE D-5

## ANALYSES OF SURFACE WATER

COLORADO RIVER DRAINAGE PROVINCE X

COLORADO RIVER NEAR TOPOCK (Station 54)

Date and time sampled P.S.T.	Discharge in cfs	Temp. in F.	Dissolved oxygen ppm	% Sat.	Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million												Total dissolved solids in ppm	Per cent sediment in ppm	Hardness as CaCO <sub>3</sub> Total ppm	Tur- bid- ity in ppm	Coliform MPN/ml	Analyzed by					
							Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)	Boron (B)	Silica (SiO <sub>2</sub> )							Other constituents				
Water Year 1962-1963																													
5-16-63	11,300	69	9.6	106	1081	8.2	91	27	195	5.2	0	163	296	91	2.5	0.51	0.15	10				720	10	338	204	<25	0.15	DMR	
1600							4.50	222	457	0.13	0.00	268	617	257	0.30	0.03	0.03												
9-19-63	10,100	68	9.2	100	1014	8.0	81	26	96	4.4	0	154	276	83	2.0	0.64	0.16	12				650	39	317	191	<25	6.2	DMR	
1630							17.13	271	1718	0.11	0.00	252	571	231	0.03	0.03	0.03												

TABLE D-5  
ANALYSES OF SURFACE WATER  
COLORADO RIVER DELTAIRAGE PROVINCE X

LAKE HAVASI, COLORADO RIVER AQUEDUCT INTAKE (Station 56d)

Date and time samples P.S.T.	Discharge in cfs in 4'	Temp in 4'	Dissolved oxygen ppm	Specific conductance at 25°C or %Sat	pH	Mineral constituents in parts per million											Total dissolved solids in ppm	Per cent calcium in ppm	Hardness on CaCO <sub>3</sub> Total in ppm	T <sub>10</sub> - Coliform b. MPN/ml	Analyzed by		
						Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)	Boron (B)						Silica (SiO <sub>2</sub> )	Other constituents
Water Year 1962-1963																							
10-2-62	--	--	--	1110	8.4 <sup>a</sup>	83 4.711	30 2.177	106 4.61	1 0.10	2 0.07	131 2.15	306 6.36	26 2.71	1.5 0.02	0.5 0.03	--	9.8	704	41	331	220	0.3	MWD
11-21-62 1005	--	69	--	---	--	87 4.38	29.5 2.42	100 4.33	5 0.13	2 0.06	134 2.17	307 6.55	94 2.71	1.6 0.11	0.1	--	10.1	704	--	339	295	0.3	MWD
12-4-62	--	61	--	1130	8.3 <sup>a</sup>	90 4.19	30 2.17	109 4.74	5 0.13	0 0.00	119 2.17	315 6.55	96 2.71	2.2 0.02	0.02	--	9.2	732	40	348	226	0.3	MWD
1-1-63	54	50	--	1130	8.4	91 4.50	30 2.17	104 4.52	5 0.13	0 0.00	150 2.46	309 6.43	26 2.71	1.0 0.02	0.02	--	10.2	725	39	351	228		MWD
2-5-63	50	50	--	1130	8.2	92 4.59	30 2.17	104 4.52	5 0.13	0 0.00	151 2.53	309 6.43	94 2.65	2.1 0.03	0.02	--	9.8	723	39	353	227	0.2	MWD
3-5-63 0915	63	50	--	1120	8.3	91 4.51	30.5 2.51	100 4.35	6 0.15	0 0.00	151 2.48	310 6.43	91 2.57	2.2 0.02	0.02	--	9.0	716	38	353	229	0.8	MWD
4-2-63 0940	63	50	--	1103	8.3	91 4.50	29.5 2.42	102 4.41	5 0.13	0 0.00	150 2.46	307 6.39	92 2.59	2.1 0.02	0.02	--	9.2	711	39	348	225	0.4	MWD
5-7-63	72	50	--	1035	8.3	91 4.50	29.0 2.38	95 4.13	5 0.13	0 0.00	146 2.39	302 6.28	90 2.51	2.2 0.03	0.02	--	8.6	696	37	346	226		MWD
6-18-63	77	50	--	1085	8.1	86 4.29	29.5 2.42	96 4.18	5 0.13	0 0.00	148 2.13	293 6.09	88 2.48	1.7 0.02	0.02	--	9.3	683	38	336	215		MWD
7-16-63	77	50	--	1050	8.3	81 4.04	29 2.30	92 4.02	5 0.13	0 0.00	131 2.15	289 6.01	86 2.13	1.2 0.02	0.02	--	10.2	659	38	322	125	0.6	MWD
8-6-63	82	50	--	1050	7.7	78 3.89	29 2.38	94 4.02	6 0.15	0 0.00	126 2.07	289 6.01	87 2.15	1.2 0.02	0.02	--	10.7	658	39	314	211	0.3	MWD
9-3-63 1300	85	50	--	1040	7.4	78 3.89	27.5 2.26	95 4.13	5 0.13	0 0.00	127 2.08	281 5.91	86 2.13	1.0 0.02	0.02	--	10.8	651	40	308	204		MWD

TABLE D-5  
ANALYSES OF SURFACE WATER

COLORADO RIVER DRAINAGE PROVINCE X  
COLORADO RIVER BELOW PARKER DAM (Station 55)

Date and time shown on P.S.T.	Discharge in cfs	Temp in F	Dissolved oxygen in ppm	% Sat	Specific conductance (microhos at 25°C)	pH	Mineral constituents in parts per million												Total dissolved solids in ppm	Per cent solid in ppm	Hardness as CaCO <sub>3</sub> Total in ppm	Tur- bid- ity in ppm	Coliform MPN/ml	Analyzed by									
							Calcium (Ca)		Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonates (CO <sub>3</sub> )		Bicarbonates (HCO <sub>3</sub> )	Sulfates (SO <sub>4</sub> )	Chlorides (Cl)	Nitrates (NO <sub>3</sub> )	Fluoride (F)							Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents						
							ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm							ppm	ppm		ppm					
Water Year 1962-1963	13,500	70	9.6	109	1095	8.5																											
5-10-63																																	
11-17-63																																	
9-11-63	12,500	78	7.0	84	1031	8.4	84	26	98	4.4	0.00	1.6	306	92	2.5	0.54	1.0	314	39	314	212	< 25	< 25	2.3					DMR				
1300							4.19	2.11	4.78	0.11	0.00	2.00	5.01	2.13	0.02	0.03	0.16	317	4.0	317	197	< 25	< 25	< 4.5						DMR			

TABLE D-5  
ANALYSES OF SURFACE WATER  
COLORADO RIVER DRAINAGE PROVINCE X  
COLORADO RIVER NEAR BLYTHE (Station 56c)

Date and time sampled P.S.T.	Discharge in cfs	Temp in deg	Dissolved oxygen		Specific conductance at 25°C	pH	Mineral constituents in —equivale per million											Total solids in ppm	Per cent total in ppm	Hardness as CaCO <sub>3</sub> in ppm	Tur- bidity in nephelometric units	Total Coliform Bacteria	Analyzed by																		
			ppm	%Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Pota- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)	Boron (B)							Sili- ca (SiO <sub>2</sub> )	Other constituents																
Water Year 1962-1963																																									
5-16-63	10,700	77	9.0	107	1167	8.4	97	29	110	5.0	0	168	309	100	2.5	0.52	0.12	12									As = 0.001; PO <sub>4</sub> = 0.02		755	39	360	222	<25	1-3	DWR						
0830							47.01	27.30	47.79	0.13	0.00	27.75	67.13	2.32	0.04	0.03											ABS = 0.10		650	12	306	178	<1.5	23	DWR						
9-19-63	5940	78	8.6	103	1000	8.0	78	27	105	5.2	0	156	266	83	2.5	0.70	0.15	10								PO <sub>4</sub> = 0.06		650	12	306	178	<1.5	23	DWR							
1000							3.19	2.22	47.57	0.13	0.00	2.55	5.25	2.34	0.01	0.01																									

TABLE D-5  
ANALYSES OF SURFACE WATER  
COLORADO RIVER DRAINAGE PROVINCE X

ALL AMERICAN CANAL NEAR PILOT KNCP (Station 56a.)

Date and time sampled P S T	Discharge Temp. in deg. F	Dissolved oxygen in ppm	Specific conductance at 25°C	pH (α)	Mineral constituents in parts per million										Total dissolved in ppm	Percent calcium ppm	Hardness as CaCO <sub>3</sub> Total N.C. ppm	Turbidity in ppm	Coliforms MPN/ml	Analyzed by c		
					Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)							Boron (B)	Silica (SiO <sub>2</sub> )
Water Year 1962-1963																						
5-15-63 1000	78	9.4	113	8.2	100 17.99	28 2.70	129 5.61	5.2 0.13	0	171 2.80	229 6.95	117 3.30	2.0 0.03	0.60 0.03	0.11	12	830	43	365 225	25	240 23	DWR
9-11-63 1305	85	8.0	103	8.4	85 17.21	31 2.75	129 5.61	5.0 0.13	9.6 0.32	144 2.76	316 6.36	119 3.36	1.5 0.02	0.52 0.03	0.20	11	785	45	340 206	26	1 1.3	DWR



TABLE D-5  
ANALYSES OF SURFACE WATER

COLORADO RIVER DRAINAGE PROVINCE X  
COLORADO RIVER AT YUMA ARIZONA (Station 56)

Date analyzed or compiled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen in ppm	Specific conductance in micromhos at 25°C	Mineral constituents in parts per million										Total dissolved solids in ppm	Hardness as CaCO <sub>3</sub> Total in ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by							
					Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)						Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents				
Water Year 1962-1963																										
5-15-63	1070	74	10.4	121	3980	8.0	85	525	8.0	0	256	592	800	2.5	0.34	0.66	20	As = 0.001 ABS = 0.04	2645	878	668	25	2,3	DWR		
1100						10.58	6.99	22.44	0.20	0.00	4.20	12.34	22.26	0.04	0.05										2,3	
9-11-63	1340	82	9.6	121	3745	8.2	72	520	7.2	0	232	549	810	7.4	1.20	0.72	22	PO <sub>4</sub> = 0.02	2420	787	597	30	62	DWR		
1230						9.73	6.00	22.62	0.18	0.00	3.80	11.14	22.84	0.12	0.06									62		

TABLE D-5  
ANALYSES OF SURFACE WATER

COLORADO RIVER PAINTSHEEP RESERVOIR  
COLORADO RIVER BELOW MORDELOS DAM (Station 56b)

Date and time sample and P.S.T.	Discharge in cfs	Temp. in °F	Dissolved oxygen in ppm	Specific conductance in micromhos at 25°C	Mineral constituents in parts per million												Total dissolved solids in ppm	Per cent suspended in ppm	Hardness as CaCO <sub>3</sub> Total in ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by							
					equivalents per million																								
					Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbon dioxide (CO <sub>2</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)	Boron (B)	Silica (SiO <sub>2</sub> )							Other constituents						
Water Year 1962-1963																													
5-15-63 1205	263	73	9.2	106	3413	7.8	207 10.33	62 5.10	14.5 19.36	6.2 0.16	0 0.00	227 3.88	530 11.05	710 20.02	5.0 0.00	0.16 0.14	0.51 0.17					2210	55	772	578	27	700+	700+	DMR
9-11-63 1100	17.6	80	8.8	108	2179	8.2	110 0.99	52 4.27	266 11.66	5.8 0.13	0 0.00	232 3.10	446 9.30	355 10.01	5.0 0.06	0.86 0.05	0.42 0.16					1130	51	563	373	<25	130	620	DMR

TABLE D-5

## ANALYSES OF SURFACE WATER

COLORADO RIVER DRAINAGE PROVINCE, A.

ALAMO RIVER AT INTERNATIONAL BOUNDARY (Station 59)

Date and time sampled P S Y	D. Sat. in cis	Temp. in CF	Dissolved oxygen ppm % Sol	Specific conductance (microhm-cm at 25°C)	pH	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Hardness as CaCO <sub>3</sub> Total mg/l ppm	Tur- bidity in ppm	Coliform MPN/ml	Analyzed by		
						Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fite (SO <sub>4</sub> )	Chlo- rids (Cl)	Ni- tro- (NO <sub>3</sub> )	Flu- oride (F)						Bor- on (B)	Silico- (SiO <sub>2</sub> )
Water Year 1962-1963																						
11-8-62 0610	2.8	66	6.8	72.8	3808	7.6 <sup>68</sup>				0 0.00	290 4.76	553 23.19		692 19.31	1.06		59	797	559	<25	62 62	DWR
1-8-63 1530	3.11	58	10.4	101	4476	7.7				0 0.00	298 4.88	644 23.01		848 23.91	1.10		70	604	360	<25	23 6	DWR
3-12-63 1040	3.11	65	6.6	70	2870	7.4				0 0.00	262 4.30	394 17.11		460 12.97	0.72		58	628	413	145	7000 2400	DWR
5-14-63 1530	3.03	80	2.8	35	6173	7.8				0 0.00	366 6.00	1000 43.50	13 0.33	1299 26.22	2.00 0.05	As = 0.003PO <sub>4</sub> ABS = $\frac{7.10}{7.10}$	63	1260	960	<25	6300 2400	DWR
7-9-63 1635	2.55	82	7.0	88	5614	7.8				0 0.00	346 5.68	896 31.36		1170 32.99	1.80		61	1240	956	<25	62 62	DWR
9-14-63 1530	2.44	85	7.6	99	4065	7.8				0 0.00	320 5.24	600 26.10	6.8 0.23	760 21.31	25 0.06	PO <sub>4</sub> = 0.10	2765	889	627	<25	62 70	DWR



TABLE D-5

ANALYSES OF SURFACE WATER

COLORADO RIVER DRAINAGE PROVINCE X

NEW RIVER AT INTERNATIONAL BOUNDARY (Station 57)

Date and time analyzed P S T	Discharge Temp in °C in °F	Dissolved oxygen in ppm	Specific Conductance (micro-mhos/cm at 25°C)	pH	Mineral constituents in — equivalents per million											Total dissolved solids in ppm	Per cent of total suspended in ppm	Hardness of CaCO <sub>3</sub> Total in ppm	Tur-bid-ity in ppm	Chlor-ophyll-a in ppm	Analyzed by C											
					Calcium (Ca)		Magnesium (Mg)	Sodium (Na)	Potas-sium (K)	Carbon-ate (CO <sub>3</sub> )	Bicar-bon-ate (HCO <sub>3</sub> )	Sul-fate (SO <sub>4</sub> )	Chlo-ride (Cl)	Nit-rite (NO <sub>2</sub> )	Nit-rogen (N)							Fluo-ride (F)	Boron (B)	Silice-ous (SiO <sub>2</sub> )	Other constituents							
					mg	mg																										
Water Year 1964-1963																																
11-8-62 0710	11.6	68	7.8	85	1013	7.78		580 23.23						210 3.11	900 35.35						0.86				64	704	532	50	13,000 6,200	DMR		
1-8-63 1600	203	60	9.6	95	14133	7.5		639 27.80						256 4.20	995 24.76							0.98				63	800	590	25	62,000 Lab accident	DMR	
3-12-63 0930	219	63	8.4	82	14137	7.8		650 26.28						239 3.92	980 27.61							0.88				65	767	571	10	150- 150-	DMR	
5-11-63 1500	104	82	6.5	81	6024	8.1		910 37.59	37	0.95				276 4.52	736 15.31							5.0 0.74	0.76				64	1058	832	25	210 mill 700 mill	DMR
7-9-63 1600	158	88	7.2	96	5636	8.5		908 37.50						227 3.72	1150 40.59							1.2				66	1000	814	<25	10,000 620,000	DMR	
9-11-63 1600	175	91	8.0	110	6310	8.2		1000 43.50	37	0.95				251 4.16	806 16.79							8.7 0.11	0.96			65	1112	904	35	70,000 24,000	DMR	



TABLE D-5

## ANALYSES OF SURFACE WATER

COZUMEL RIVER DRAINAGE PROVINCE X

SALTUN SEA AT SALTUN SEA STATE PARK (Station 68a)

Date and time of sample P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen in ppm	Specific conductance (microhm/cm at 25°C)	pH	Mineral constituents in parts per million											Total dissolved in ppm	Penetration in ppm	Hardness as CaCO <sub>3</sub> ppm	Total Turbidity in ppm	Total Chlorophyll a in µg/l	Analyzed by					
						Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)	Boron (B)							Silica (SiO <sub>2</sub> )	Other constituents			
Water Year 1962-1963																											
11-7-62 1505	Sea	78	10.0	120.5	144,300	8.1		2725 1233.0		0 0.00	1.90 3.12		14,500 1097.9				7.10				6550 6094	<25		6.2 13	DWR		
1-9-63 0930	Sea	58	9.6	93	144,730	8.1		10,200 4137		0 0.00	1.94 3.13		14,450 1071.5				8.3				6600 6441	<25		2.3 23	DWR		
3-12-63 1430	Sea	65	9.8	97	144,310	8.0		9800 1263		0 0.00	1.90 3.12		14,200 1069.4				8.1				5750 5594	<25		0.6 5	DWR		
5-11-63 1115	Sea	78	9.5	114	12,000	7.8		950 78.09	9920 430.65	160 1.70	1.85 3.04	7172 1197.12	14,300 1037.26	5.0 0.78	2.5 0.13	8.4 2					5918 5866	<25		115 115	DWR		
7-10-63 1115	Sea	87	10.0	133	14,560	8.5		9680 421.0	0 0.00	2.96 2.96	3.00 3.00	13,700 366.3				7.3					6010 5862	<25		50 23	DWR		
9-11-63 1145	Sea	90	9.6	129	12,370	8.4		1044 55.57	9900 430.65	166 1.70	1.95 3.26	7320 1327.59	14,200 1004.14	5.0 0.78	2.90 0.13	8.2 2					6257 6097	<25		23 23	DWR		





TABLE D-5

## ANALYSES OF SURFACE WATER

COLORADO RIVER DRAINAGE PROVINCE X

WHITEWATER RIVER NEAR MEXCA (Station 68b)

Date or range of samples P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	% Sat	Specific conductance (micromhos at 25°C)	Mineral constituents in —parts per million—													Total dissolved solids in ppm	Per- cent sod- ium	Hardness on CaCO <sub>3</sub> Total ppm	Tur- bidity in ppm	Conform- ity MPN/ml	b Analyzed by C												
						Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)	Boron (B)	Silico- nate (SiO <sub>2</sub> )	Other constituents																		
Water Year 1962-1963																																				
11-7-62 1535	80	76	8.4	99.2	3821	7.9 <sup>nd</sup>																													DMR	
1-9-63 1000	80	60	9.2	91	3860	8.1																												DMR		
3-12-63 1600	90	68	9.0	98	3711	7.8																												DMR		
5-11-63 1030	90	80	9.8	121	3597	8.2																													DMR	
7-10-63 1300	100	82	10.0	126	3318	8.6																													DMR	
9-11-63 1300	90	84	9.6	123	3012	8.5																													DMR	
																																				DMR
																																				DMR
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																																				DMR
																																				DMR

TABLE D-6  
ANALYSES OF SURFACE WATER  
SANTA ANA DRAINAGE PROVINCE Y  
SANTA ANA RIVER NEAR MEMPONE (Station 51b)

Date and time sampled P.S.T.	Discharge Temp in cfs in °F	Dissolved oxygen ppm %Sat	Specific conductance (at 25°C)	pH	Mineral constituents in equivalents per million								Total dissolved solids in ppm	Per- cent sulfur in ppm	Hardness as CaCO <sub>3</sub> Total in ppm	Tur- bid- ity in ppm	Con- form MPN/ml	Analyzed by				
					Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bico- carbonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)							Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)	Boro- n (B)	Silico (SiO <sub>2</sub> )
Master Year 1962-1963																						
10- 4-62 1020	27	56	9.6	91	243	7.9 <sup>a</sup>																
11-14-62 1345	26	54	9.2	85.4	198	7.9 <sup>b</sup>																
12- 3-62 1235	26 est	50	10.8	95	253	8.0 <sup>a</sup>																
1- 9-63 1335	26 est	48	11.6	100	247	8.2 <sup>a</sup>																
2- 6-63 1230	8 est	50	10.8	96	248	7.8																
3- 7-63 1340	8 est	51	11.0	98	250	8.0	25 1.25	5 0.45	18 0.78	1.4 0.83	11.8 2.02	16 0.33	5 0.11	0.5 0.02	0.06	22	160	31	85	0 < 25	DMR	
4- 4-63 1620	8 est	50	11.0	97	246	8.0																
5-10-63 0730	8 est	50	11.6	87	258	7.8	28 1.40	4.6 0.38	18 0.78	1.4 0.03	12.7 2.08	15 0.32	5 0.04	0.5 0.02	0.06	15	178	30	89	0 < 25	13 DMR	
6- 6-63 1000	22 est	54	10.8	100	264	7.6	27 1.35	6.0 0.57	1.8 0.85	0.8 0.05	14.2 2.16	14 0.29	6 0.05	0.4 0.03	0.06	17	180	30	96	0 < 25	2.3 DMR	
7- 4-63 1345	15 est	58	11.0	107	259	7.8	26 1.30	7.8 0.64	1.7 0.04	0.8 0.04	14.8 2.10	14 0.29	8 0.22	0.5 0.03	0.05	16	178	27	97	0 < 25	2.3 DMR	
8- 5-63 1330	15	64	10.6	111	260	8.4	29 1.45	7.4 0.61	1.4 0.03	0.8 0.03	14.2 2.32	15 0.31	5 0.00	0.6 0.03	0.05	16	147	27	103	0 < 25	62 DMR	
9- 6-63 1300	30	64	11.0	115	263	8.5	29 1.45	6.0 0.57	2.0 0.05	4.8 0.10	14.8 2.12	13 0.28	5 0.14	0.3 0.02	0.08	18	190	25	101	0 < 25	6.2 DMR	

TABLE D-6  
ANALYSES OF SURFACE WATER

SANTA ANA DRAINAGE PROVINCE X  
SANTA ANA RIVER NEAR ARLINGTON (Station 51)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	% Sat	Specific conductance (micromhos at 25°C)	Mineral constituents in parts per million										Total dissolved solids in ppm	Hardness as CaCO <sub>3</sub> Total	Temp. stability in ppm	Calciform b/c				
						Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)					Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents	
Water Year 1962-1963																							
10-4-62 0845	18.5	66	8.0	85	1024	7.9 <sup>a</sup>	11.1	23	73	4.9	0	318	28	276	0.13	PO <sub>4</sub> = 0.02 ABS = 0.03	29	384	123	62	DHR		
11-7-62 1110	29	66	8.4	90.0	1104	7.7 <sup>a</sup>	5.54	3.18	92	4.00	0.13	320	98	276	0.10	PO <sub>4</sub> = 0.02 ABS = 0.09	672	31	371	109	25	12	DHR
12-3-62 1115	24	66	8.8	94	1030	7.7 <sup>a</sup>	5.39	3.05	70	3.05	0	311	24	265	0.10	Mn <sub>2</sub> = 0	627	29	373	118	25	62	DHR
1-10-63 0940	19	60	8.0	80	1079	7.4 <sup>a</sup>	5.14	3.31	31	2.56	0	312	94	265	0.10	PO <sub>4</sub> = 0.13 ABS = 0.22	638	29	385	129	25	>700 >100	DHR
2-7-63 1030	21	60	8.4	84	1022	8.1	5.09	3.31	22	2.76	0.13	262	98	276	0.11	PO <sub>4</sub> = 0.04	634	32	347	82	25	230	DHR
3-6-63 1600	24	62	8.2	84	1054	7.8	5.24	3.52	81	3.52	0	322	99	279	0.11	PO <sub>4</sub> = 0.05 ABS = 0.08	670	32	360	96	25	230	DHR
4-4-63 1530	23	70	7.6	85	1040	8.2	4.99	3.44	79	3.6	0.00	321	97	274	0.10	PO <sub>4</sub> = 0.3 ABS = 0.22	616	32	360	97	25	2400	DHR
5-10-63 1000	24	64	9.2	96	1022	8.2	5.04	3.57	82	4.6	0.12	310	99	279	0.16	PO <sub>4</sub> = 0.12 ABS = 0.06	679	33	356	102	25	230	DHR
6-6-63 1100	23	65	9.0	95	1047	8.0	4.3	3.31	76	5.0	0.00	329	100	277	0.14	PO <sub>4</sub> = 0.1 ABS = 0.06	673	30	387	117	25	62	DHR
7-3-63 1300	17	78	8.6	104	1009	7.6	4.99	3.22	74	4.8	0.00	289	100	262	0.14	PO <sub>4</sub> = 0.0 ABS = 0.06	657	30	366	129	25	230	DHR
8-5-63 1445	18.3	76	9.2	108	1001	8.2	4.04	3.55	82	4.5	0.12	294	118	279	0.16	PO <sub>4</sub> = 0.09 ABS = 0.13	576	35	321	113	25	230	DHR
9-13-63 1140	18	69	9.0	99	1044	8.2	5.24	3.26	75	4.8	0.12	332	100	282	0.14	PO <sub>4</sub> = 0.09 ABS = 0.11	715	30	383	111	25	230	DHR

TABLE D-6  
ANALYSES OF SURFACE WATER  
SANTA ANA DRAINAGE PROVINCE Y  
SANTA ANA RIVER NEAR NORCO (Station 51e)

Date and time sampled P S T	Oscillator Temp. in air	Dissolved oxygen		Specific conductance at 25°C	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent solids	Hardness as CaCO <sub>3</sub> Total ppm	Turbidity ppm	Calcium MPM/ml	Analyzed by
		in %	ppm			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)						
Water Year 1962-1963																					
10-4-62 0815	25 est.	68	4.4	4.8	1154	7.3 <sup>48</sup>		106 4.61		0	312 5.12		131 3.69								
11-7-62 1030	30 est.	64	4.8	5.0	1196	7.3 <sup>48</sup>		105 4.57	9.1 0.25	0	310 5.08	118 2.46	128 3.61	20 0.55	1.1 0.06	0.30	34	0.0	0.0	0.0	
12-3-62 1050	25 est.	56	5.6	5.3	1174	7.3 <sup>48</sup>		109 4.74		0	316 5.18		127 3.55			0.34		0.0	0.0	0.0	
1-10-63 0915	25 est.	58	4.4	4.3	1170	7.3 <sup>48</sup>		109 4.74		0	311 5.10		128 3.61			0.46		6.0	0.0	0.0	
2-7-63 0950	30 est.	59	4.4	4.3	1139	7.4		109 4.74		0	317 5.20		128 3.61			0.39		6.0	0.0	0.0	
3-6-63 1700	60	60	4.6	4.6	1171	7.2		111 4.83		0	309 5.06		127 3.55			0.59		6.0	0.0	0.0	
4-4-63 1400	26 est.	70	4.4	4.9	1138	7.6		113 4.92		0	295 4.84		123 3.47			0.68		6.0	0.0	0.0	
5-10-63 1045	25 est.	67	5	5.4	1174	7.6		110 4.79	8.2 0.21	0	298 4.88	135 2.81	128 3.61	46 0.74	0.09 0.05	0.14	19	0.0	0.0	0.0	
6-6-63 1200	25 est.	68	5.2	5.7	1169	7.2		109 4.74		0	316 5.18		127 3.55			0.14		6.0	0.0	0.0	
7-3-63 1345	25 est.	80	7.2	8.9	1111	7.4		107 4.65		0	321 5.26		123 3.47			0.39		6.0	0.0	0.0	
8-5-63 1530	20 est.	78	10.6	11.1	1156	8.2		113 4.92		0	346 5.32	15 0.31	5 0.14	0	0.65 0.03	0.05	16	0.0	0.0	0.0	
9-13-63 1115	18 est.	76	11.0	11.5	1171	8.0		109 4.74	8.0 0.20	0	326 5.34	130 2.70	131 3.69	34 0.95	0.04	0.49	26	0.0	0.0	0.0	

TABLE D-6  
ANALYSES OF SURFACE WATER  
SANTA ANA DRAINAGE PROVINCE, Y  
SANTA ANA RIVER BELOW PRADO DAM (Station 51a)

Date and time sample was taken P.S.T.	Dichrores in cfs	Temp in deg	Dissolved oxygen ppm %Sat	Sp. Conc. (microhms at 25°C)	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Hardness on CaCO <sub>3</sub> Total in ppm	Tur- Bui- % in ppm	Analyzed by					
					Calcium (Ca)	Magne- sum (Mg)	Sodium (Na)	Potas- sum (K)	Carbon- ate (CO <sub>3</sub> )	Bicor- bonate (HCO <sub>3</sub> )	Sul- fite (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)					Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents		
Water Year 1962-1963																							
10- 4-62	42	66	8.0	85	1063	7.7 <sup>B</sup>	101	25	87	6.4	0	320	120	20	0.8	0.27	29	34	367	105	25	230	DWR
0720							5.04	2.02	3.78	4.00	0.16	0.00	3.38	11.6	0.04	0.27	29					230	DWR
11- 7-62	38	60	8.4	83.5	1087	7.6 <sup>A</sup>	104	24	92	6.1	0	316	108	20	0.8	0.27	29					620	DWR
0925							5.19	1.99	4.00	4.00	0.16	0.00	2.25	11.6	0.04	0.27	29					230	DWR
12- 3-62	40	56	9.2	87	1099	7.5 <sup>A</sup>	104	24	91	6.1	0	316	111	24	0.7	0.31	32					62	DWR
0945							5.19	1.99	3.96	3.96	0.16	0.00	2.31	11.6	0.04	0.31	32					62	DWR
1-10-63	50	58	8.4	82	1120	7.6	95	22	91	6.3	0	310	111	24	0.6	0.34	18					130	DWR
0820							4.74	2.62	3.96	3.96	0.16	0.00	2.31	11.6	0.04	0.31	18					130	DWR
2- 7-63	42	56	8.0	76	1081	7.6	98	23	91	5.8	0	320	111	25	0.8	0.31	25					130	DWR
0820							4.89	1.89	3.96	3.96	0.15	0.00	2.31	11.6	0.04	0.31	25					130	DWR
3- 7-63	36	59	8.6	85	1100	7.4	99	23	98	6.0	0	317	116	22	0.8	0.40	32					230	DWR
0900							4.94	1.88	4.26	4.26	0.15	0.00	2.42	11.7	0.04	0.40	32					230	DWR
4- 4-63	23	58	8.0	78	1095	7.8	97	22	100	7.2	0	315	115	30	0.8	0.47	30					620	DWR
1340							4.84	1.84	4.35	4.35	0.18	0.00	2.40	11.5	0.04	0.47	30					620	DWR
5-10-63	52	66	9.2	98	1106	7.6	103	25	100	5.5	0	303	122	21	0.65	0.35	20					7000+	DWR
1120							5.14	2.04	4.35	4.35	0.14	0.24	2.55	12.2	0.34	0.35	20					620	DWR
6- 6-63	44	67	9.0	97	1119	7.4	106	26	97	5.4	0	319	120	19	0.75	0.37	18					130	DWR
							5.29	2.15	4.22	4.22	0.14	0.00	2.50	12.0	0.04	0.37	18					2400	DWR
7- 3-63	25	77	8.8	105	1115	7.6	107	27	99	5.8	0	332	125	21	0.65	0.33	20					130	DWR
1445							5.31	2.15	4.31	4.31	0.15	0.00	2.50	12.5	0.31	0.33	20					62	DWR
8- 5-63	20	77	9.4	112	1133	8.0	113	25	104	5.4	0	330	126	21	1.6	0.40	23					2400	DWR
1630							5.64	2.08	4.52	4.52	0.14	0.00	2.67	12.6	0.34	0.40	23					2400	DWR
9-13-63	21	70	9.0	100	1149	8.2	107	31	94	5.8	0	350	127	19	0.68	0.38	27					130	DWR
1040							5.31	2.52	4.09	4.09	0.15	0.00	2.64	12.7	0.31	0.38	27					230	DWR

**TABLE D-6**  
**ANALYSES OF SURFACE WATER**  
 SANTA ANA DRAINAGE PROVINCE - Y  
 WARM CREEK NEAR COLTON (Station 506)

Date and time sampled P.S.T.	Discharge in cfs in 6 ft	Temp in 6 ft	Dissolved Oxygen in ppm	Specific Conductance at 25°C	pH	Mineral constituents in $\mu$ equivalents per million												Total dissolved solids in ppm	Per cent sodium in ppm	Hardness as CaCO <sub>3</sub> Total in ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by		
						Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)	Boron (B)	Silica (SiO <sub>2</sub> )							Other constituents	
Wet Year 1962-1965																									
10-2-62 0715	3	77	7.0	84	7.5 <sup>a</sup>	44 2.19	20 1.03	122 5.31	13 0.33	0	170 2.78	70 1.46	116 3.33	82 1.33	1.3 0.07	0.57	24	PO <sub>4</sub> = 23 ABS = 3.0	662	58	191	58	25	700	DMR
10-2-62 11955	11	81	9.6	118	7.4 <sup>a</sup>	53 2.64	19 1.60	120 5.22	14 0.36	0	188 3.08	71 1.48	133 3.75	87 1.40	1.3 0.07	0.64	32	PO <sub>4</sub> = 28 ABS = 3.1	663	55	212	58	25	23	DMR
10-2-62 1820	10	77	6.2	74	7.5 <sup>a</sup>	50 2.50	18 1.44	81 3.52	13 0.33	0	209 3.42	62 1.29	65 1.83	78 1.26	0.9 0.05	0.34	28	ABS = 4.7 NH <sub>4</sub> = 9	503	47	197	26	25	0.6 2.3	DMR
11-7-62 1220	10	76	7.5	90	7.5 <sup>a</sup>	42 2.10	22 1.28	98 4.26	14 0.36	0	217 3.56	63 1.32	84 2.37	71 1.15	0.8 0.04	0.44	17	NH <sub>4</sub> = 13; PO <sub>4</sub> = 29 ABS = 5.0	530	52	196	18	25	23	DMR
12-10-62 1215	66	66	8.6	88	8.6 <sup>a</sup>	44 2.20	18 1.48	116 5.05	15 0.38	0	229 3.76	75 1.56	107 3.02	71 1.14	1.0 0.05	0.62	38	NH <sub>4</sub> = 52; PO <sub>4</sub> = 36 ABS = 5.0	602.2	54	184	0	25	700	DMR
1-7-63 1230	15 est.	65	8.2	86	7.6 <sup>a</sup>	47 2.35	14 1.17	127 5.52	14 0.36	0	231 3.78	66 1.37	123 3.47	30 0.48	1.7 0.09	0.74	31	NH <sub>4</sub> = 17; PO <sub>4</sub> = 26 ABS = 4.2	609	53	176	0	25	23	DMR
2-5-63 1230	67	7-8	7.6	76	7.5	40 2.00	18 1.50	125 5.44	14 0.36	0	179 2.94	58 1.21	122 3.44	1.9 1.35	0.8 0.10	0.57	34	NH <sub>4</sub> = 0.00 PO <sub>4</sub> = 22; ABS = 2.8	570	58	175	28	25	50	DMR
3-7-63	69	75	7.3	87	7.4	47 2.35	14 1.17	127 5.52	14 0.36	0	231 3.78	66 1.37	123 3.47	30 0.48	1.7 0.09	0.74	31	NH <sub>4</sub> = 17; PO <sub>4</sub> = 26 ABS = 4.2	609	53	176	0	25	23	DMR
4-4-63 1200	75	7.3	87	88	7.4	40 2.00	18 1.50	125 5.44	14 0.36	0	179 2.94	58 1.21	122 3.44	1.9 1.35	0.8 0.10	0.57	34	NH <sub>4</sub> = 0.00 PO <sub>4</sub> = 22; ABS = 2.8	570	58	175	28	25	50	DMR
5-2-63 1230	78	7.3	88	88	7.6	31 1.55	24 1.99	91 3.96	13.4 0.34	0	161 2.64	54 1.13	77 2.17	82 1.32	2.0 0.10	0.52	18	NH <sub>4</sub> = 1.0 PO <sub>4</sub> = 30 ABS = 2.05	490	51	177	45	25	23	DMR
6-6-63 1615	72	7.2	82	975	7.4	47 2.35	19 1.59	127 5.52	12.4 0.32	0	204 3.34	62 1.29	118 3.33	76 1.23	2.5 0.13	0.64	21	NH <sub>4</sub> = 3.2 PO <sub>4</sub> = 33; ABS = 3.4	605	55	197	30	25	62	DMR
7-2-63 1230	82	7.4	93	969	7.5	52 2.59	17 1.37	113 4.92	14.4 0.37	0	237 3.88	66 1.38	108 3.05	41 0.60	1.3 0.07	0.64	21	NH <sub>4</sub> = 2	608	50	198	4	25	6.2	DMR
8-8-63 1245	Composite Sample	74	9.7	112	7.5	46 2.30	17 1.36	112 4.87	14 0.36	0	203 3.32	70 1.46	97 2.74	71 1.15	1.0 0.10	0.66	22	NH <sub>4</sub> = 6.1	524	53	183	17	25	7000	DMR
9-12-63 1600	Variable	82	6.3	79	7.5	41 2.05	20 1.64	110 4.79	13 0.33	0	178 2.92	64 1.59	110 3.10	64 1.03	1.0 0.06	0.64	22	PO <sub>4</sub> = 27 ABS = 2.7	550	54	185	39	25	62	DMR

TABLE D-6  
ANALYSES OF SURFACE WATER

SANTA ANA DRAINAGE PROVINCE Y

WASH CREEK NEAR SAN BERNARDINO (Station 50c)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance at 25°C	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Hardness as CaCO <sub>3</sub> total in ppm	Tur- bid- ity in ppm	Col- form in ppm	Analysed by				
			ppm	% Sat			Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potass- ium (K)	Chlor- ide (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)	Bor- on (B)	Silic- a (SiO <sub>2</sub> )	Other constituents									
Water Year 1962-1963																									
10-2-62	Dry																								
1000	No flow																								
11-7-62	Dry																								
1000	No flow																								
12-3-62	Dry																								
1215	No flow																								
1-9-63	Dry																								
1430	No flow																								
2-63	Dry																								
	No flow																								
3-63	Dry																								
	No flow																								
4-63	Dry																								
	No flow																								
5-10-63	Dry																								
0900	No flow																								
6-6-63	Dry																								
0830	No flow																								
7-3-63	Dry																								
1145	No flow																								
8-5-63	Dry																								
1450	No flow																								
9-6-63	Dry																								
1500	No flow																								

TABLE D-6  
ANALYSES OF SURFACE WATER

SANTA ANA DRAINAGE PROVINCE Y  
CHINO CREEK NEAR CHINO (Station 86)

Date and time sampled PST	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	% Sat	Specific conductance (microhmhos at 25°C)	Mineral constituents in ————— parts per million												Total dissolved solids in ppm	Percent sodium in ppm	Hardness as CaCO <sub>3</sub> Total in ppm	Total Coliform b/c	Analyzed by c				
						Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)	Barium (Ba)	Silica (SiO <sub>2</sub> )						Other constituents			
Water Year 1962-1963																										
10-4-62 Dry No flow																										
11-7-62 Dry No flow																										
0905 Dry No flow																										
12-3-62 Dry No flow																										
1-10-63 15 est	52	6.0	54		531	7.6 <sup>8</sup>	47	1.0	31	24	0	1.33	34	32	1.0	0.28	2	312	26	161	52	1500	24000	DWR		
0755							2.35	0.87	1.35	0.61	0.00	2.18	0.96	0.92	0.05			772	35	376	0		70000+	DWR		
2-7-63 Dry No flow																										
0915 Pond	58	4.6	45		1265	7.4	88	39	111	26	0	561	96	1.8	0.61	0.31	13								DWR	
3-7-63 1000							4.39	3.17	4.83	0.67	0.00	9.20	2.71	0.03											DWR	
4-4-63 1240	5 est	68	5.0	55	1939	7.5	77				0	325	67		0.30						257	0	25	2300	DWR	
5-9-63 Dry No flow																										
1300																										
6-6-63 Dry No flow																										
1400																										
7-3-63 Dry No flow																										
1545																										
8-5-63 .5 est	80	5.8	72		1302	8.2	129	43	107	18	0	407	69	0	1.3	0.27	28	889	31	500	166	72	70000	6200	DWR	
							6.44	3.96	4.65	0.76	0.00	6.68	1.75		0.07											
9-13-63 Ponded	77	4.6	33		642	8.4	51	15	56	20	0	277	41	4.0	0.5	0.26	29	432	36	187	0	25	620	620	DWR	
							2.94	1.20	2.44	0.51	0.00	4.54	1.16		0.03											



TABLE D-6

ANALYSES OF SURFACE WATER

SANTA ANA DRAINAGE PROVINCE, Y

LAKE ELSTONNE NORTH SHORE (Station 09)

Date and time sampled P.S.T.	Discharge in cfs in pipe	Temp. in pipe	Dissolved oxygen ppm	Specific conductance at 25°C	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Hardness as CaCO <sub>3</sub> Total N.C. ppm	Turbid. - Coliforms in ppm	Analyzed by C
						Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)				
Water Year 1962-1963																			
11- 8-62	Dry lake																		
1515																			
1- 7-63	Dry lake																		
1600																			
2- -63	Dry lake																		
3- -63	Dry lake																		
4- -63	Dry lake																		
5-13-63	Dry lake																		
6- -63	Dry lake																		
7- 8-63	Dry lake																		
1630																			
9-17-63	Dry lake																		
1500																			

TABLE D-7  
ANALYSES OF SURFACE WATER

SAN DIEGO DRAINAGE PROVINCE

SANTA MARGARITA RIVER NEAR FALLBROOK (Station 51c)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen in ppm	Specific conductance (micrograms at 25°C)	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent sodium in ppm	Hardness as CaCO <sub>3</sub> Total in ppm	Turbidity in ppm	Coliformity MPN/ml	Analyzed by C	
						Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)							Boron (B)
Water Year 1962-1963																						
11-8-63 1445	0 est.	60	6.0	79.5	7.7	86 4.29	21 2.51	122 5.31	4.3 0.11	0 0.00	354 5.80	116 2.42	140 3.95	5.6 0.09	0.21	0.21	0.24	340	50	25	13	DMR
1-7-63 1700	0 est.	50	10.8	95	8.0	118 5.13		322 5.28		0 0.00	322 5.28		131 3.69		0.16			329	65	<25	>100 10.8	DMR
3-11-63 1120	0 est.	57	6.4	62	7.8	134 5.83		329 5.40		0 0.00	329 5.40		152 4.29		0.21			340	70	<25	60	DMR
5-13-63 1700	0 est.	66	9.0	90	8.0	82 4.09	28 2.29	128 5.57	3.2 0.03	16 0.50	306 5.02	106 2.21	135 3.61	1.5 0.02	0.23	0.23	0.15	319	40	<25	62 62	DMR
7-8-63 1515	6 est.	70	9.4	105	7.4	81 4.19	28 2.31	130 5.66	6.8 0.17	0 0.00	381 5.72	143 2.38	143 4.03	1.9 0.02	0.24	0.24	0.36	348	36	<25	240	JMR
9-17-63 1315	7 est.	66	9.0	96	8.2	84 4.19	28 2.31	128 5.57	6.8 0.17	0 0.00	353 5.72	114 2.38	147 4.15	1.9 0.02	0.26	0.26	0.31	325	36	30	50 240	DMR

TABLE D-7

ANALYSES OF SURFACE WATER

SAN DIEGO DRAINAGE PROVINCE - Z

SAN LUIS REY RIVER NEAR PALA (Station 62)

Date and time sampled P.S.T.	On-chance Temp. in °F	Dissolved oxygen in ppm % Sat.	Specific conductivity at 25°C pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Hardness on CaCO <sub>3</sub> Total N.C. ppm 1 ppm	Turbidity - Coniform MPN/ml in ppm	Analyzed by C
				Calcium (Ca) (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)	Boron (B)				
Water Year 1992-1993																	
11-9-92	Dry																
1-8-93	No flow																
1-7-93	Dry																
1-9-90	No flow																
3-6-93	Dry																
	No flow																
5-13-93	Dry																
16-93	No flow																
7-9-93	Dry																
15-90	No flow																
9-17-93	Dry																
12-90	No flow																

TABLE D-7  
ANALYSES OF SURFACE WATER

SAN DIEGO DRAINAGE PROVINCE 2  
ESCONDIDO CREEK NEAR HARMONY GROVE (Station 03)

Date and time sampled P S T	Discharge Temp in °F	Dissolved oxygen ppm %Sat	Specific conductance micromhos at 25°C	pH	parts per million										Total solids in ppm	Per- cent solids non- sum.	Hardness as CaCO <sub>3</sub> Total N.C. ppm	Tur- bid- ity in ppm	Coliform b MPN/ml	Analyzed by					
					Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)							Boron (B)	Silico- lic (SiO <sub>2</sub> )	Other constituents		
Water Year 1962-63																									
11-E-62 1255	2 Est.	4.4	50	2099	7.2 <sup>a</sup>			253 11.00		0 0.00	2.71 4.71		340 9.59							57	111	189	< 25	230 660	DMR
1-E-63 0740	2 Est.	5.6	52	1984	7.2 <sup>b</sup>			243 10.48		0 0.00	3.10		282 7.99		0.78					57	392	237		23 62	DMR
3-11-63 1305	1 Est.	5.8	59	2007	7.4			259 11.27	16 0.41	0 0.00	2.44 4.00	301 6.27	335 9.45	30 0.88	0.74					55	390	190	1.0	620 660	DMR
5-13-63 1330	1 Est.	6.0	64	1875	7.4			244 10.61	15.6 0.40	0 0.00	2.62 4.30	298 6.20	277 7.81	3.0 0.05	0.67					58	366	151	7.00	650 130	DMR
7-8-63 1400	2 Est.	7.0	81	1824	7.2			255 11.09		0 0.00	1.83 3.00		296 8.33		0.69					58	396	246	< 25	230 230	DMR
1-17-63 1150	3 Est.	5.8	66	2019	7.4			260 11.31	17 0.44	0 0.00	2.75 4.30	257 5.35	353 9.95	0 0.00	0.98					57	369	144	9.0	7000 7000	DMR

TABLE D-7  
ANALYSES OF SURFACE WATER

SAN DIEGO DRAINAGE PROVINCE 2

SAN DIEGUITO RIVER BELOW SAN PASQUAL VALLEY (Station 64)

Date and time sampled P.S.T.	Discharge Temp in cfs in df	Dissolved oxygen		Specific conductance (microhm/cm at 25°C)	Mineral constituents in parts per million										Total dissolved solids in ppm	Per cent total hardness as CaCO <sub>3</sub> Total Hardness ppm	Temporarily Hardness ppm	Total Hardness as CaCO <sub>3</sub> ppm	Total Hardness as CaCO <sub>3</sub> ppm	Analyzed by C	
		ppm	% sat		Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)							Boron (B)
Water Year 1962-1963																					
11-8-62	No flow																				
12-40	Dry																				
1-8-63	No flow																				
2-30	No flow																				
3-63	Dry																				
5-13-63	No flow																				
5-20	No flow																				
7-8-63	Dry																				
12-00	No flow																				
9-10-63	Dry																				
12-00	No flow																				

TABLE D-7  
ANALYSES OF SURFACE WATER

SAN DIEGO DRAINAGE PROVINCE  
SAN DIEGO RIVER AT OLD MISSION DAM (Station 65)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific Conductance (microhm/cm at 25°C)	pH	Mineral constituents in parts per million															Total dissolved solids in ppm	Per cent suspended in ppm	Hardness as CaCO <sub>3</sub> Total in ppm	Turbidity in ppm	California MPN/ml	Analyzed by										
			ppm	% Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)	Barium (B)	Silica (SiO <sub>2</sub> )	Other constituents																		
																				70	355							7.2	0	334	323	436	10	0.78	0.70	14	526
Water Year 1962-1963																																					
11-02	Pond																																				
0.95	No flow																																				
1-3-63	Pond																																				
1200	No flow																																				
3-11-63	1 est.	68	7.0	76	2662	7.9	95	70	355	7.2	0	334	323	436	10	0.78	0.70	14	526	59	7000																
5300							1,747	5,778	13,145	0.173	0.00	5,748	6,773	13,771	0.17	0.06																					
5-13-63	.05 est.	60	10.0	108	2854	7.4	128	74	391	7.6	0	415	359	530	4.3	0.68	0.64	14	624	57	620																
1130							5,339	6,208	17,011	0.179	0.00	6,743	7,473	14,795	0.07	0.08																					
7-7-65	.5 est.	75	8.8	103	2956	7.3	133	81	394	6.8	0	448	336	583	6.2	1.67	0.71	22	606		620																
1130							6,304	6,603	16,700	0.17	0.00	7,334	6,593	16,444	0.10	0.03																					
9-17-63	1 est.	73	9.0	103	3272	7.3	157	95	422	8.0	0	434	459	626	3.7	0.6	0.66	43	783	54	60																
1000							7,783	7,783	13,136	0.20	0.00	7,712	9,556	17,495	0.06	0.03																					

TABLE D-7

## ANALYSES OF SURFACE WATER

SAN DIEGO IRRIGATION DIVISION  
 FORESTER CREEK AT MISSION GORGE ROAD (Station 65a)

Date sample P.S.T.	Discharge in cfs	Temp in deg F	Dissolved oxygen ppm	Specific conductance (micro-mhos at 25°C)	pH	Mineral constituents in parts per million											Total dis- solved solids in ppm	Per- cent soli- dion	Hardness as CaCO <sub>3</sub> Total N.C. ppm	Tot- big- ity MPN/ml	Analyzed by C
						Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluo- ride (F)	Boron (B)					
Water Year 1962-1963																					
11-8-62	Dry																				
11-9	No flow																				
1-3-63	Dry																				
12-15	No flow																				
3-63	Dry																				
5-13-63	No flow																				
12-90	Dry																				
	No flow																				
	This station dropped as of 7-1-63																				

TABLE D-7  
ANALYSES OF SURFACE WATER

SAN DIEGO DRAINAGE PROVINCE  
SAN DIEGO RIVER NEAR MISSION CORBE ROAD (Station 05c)

Date sampled P.S.T.	Discharge in cfs	Temp in deg f	Dissolved oxygen ppm	%SO <sub>4</sub>	Specific conductance (microhm/cm at 25°C)	pH	Mineral constituents in equivalents per million										Total dissolved solids in ppm	Per- cent sulfur in ppm	Total N.C. in ppm L.P.M.	Tur- bid- ity in ppm	Coliform MPN/ml	Analyzed by					
							Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)							Boron (B)	Silica (SiO <sub>2</sub> )	Other constituents		
Water Year 1962-1963																											
11-8-62 1005	6 Est.	70	5.0	02	2157	7.3 <sup>a</sup>	87 1.31	47 3.11	253 11.01	11.01 0.16	0	307 5.04	333 6.31	224 9.13	66 1.07	1.1 0.06	0.71 1.2	1.1 0.06	1275	53	109	157	25	5-6 62.1	DWR		
1-8-63 1110	1.7	64	6.0	63	2212	7.4 <sup>b</sup>			288 12.53		0	271 6.36	290 8.18				1.20		62	377	73	25	7000 2400		DWR		
3- -63	Dry no flow																										
5-11-63 1900	5 Est.	72	5.8	66	2129	7.4	82 1.09	12 3.17	267 11.61	0.11	0	403 6.60	280 5.31	304 8.57	1.6 0.02	1.7 0.09	0.71 1.2		1193	59	378	46	7010		DWR		
7-7-63 1200	5 Est.	76	6.6	78	2154	7.4	77 3.51	21 11.10	261 11.35	0.46	0	254 5.30	317 6.60	333 9.33	6.0 0.10	6.7 0.10	0.78 1.8		1235	53	400	110	25	230		DWR	
9-17-63 1030	3 Est.	69	7.0	77	2209	7.3	106 5.29	53 11.39	291 12.76	0.38	0	338 5.31	280 5.31	376 10.60	50 0.81	0.3 0.02	0.64 1.1		1115	55	484	207	35	1300 2400		DWR	



TABLE D-7  
ANALYSES OF SURFACE WATER

SAN DIEGO DRAINAGE PROVINCE 7

SPRING VALLEY CREEK NEAR LA PRESSA (Station 65b)

Date and time analyzed P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million										Total dissolved in ppm	Hardness on CaCO <sub>3</sub> Total ppm	Temp. by - MPM	Coliform MPN/m	Analyzed by c					
						Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO <sub>3</sub> )	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Nitrate (NO <sub>3</sub> )	Fluoride (F)						Barium (B)	Silica (SiO <sub>2</sub> )	Other constituents		
Water Year 1962-1963																									
11-8-62	3	76	9.6	113	2904	113	79	334	17	0	115	773	504	0	0.6	0.85	1.8	570	230	100	230	DWR			
1-8-63	est.					570	570	1453	0.44	0.00	670	778	1421	0.00	0.03				570	230		230	DWR		
1-9-63		68	5.4	59	3400			1379			420	770	625			0.52			66	488	136	75	4.5	DWR	
2-63	Dry No flow																						6	DWR	
3-1-63	3	65	6.0	70	2043			1079			384	332	1127			2.3			64	445	129	180	700+	DWR	
1-13-63	3	72	8.4	90	3214	113	68	413	10	0.00	500	404	557	1.9	1.00	0.70	20	1839	54	563	153	110	420	DWR	
1-15	est.					131	71	425	19	0	466	410	530	1.2	0.70			1875	54	619	237	25	4.5-	DWR	
1-22-63		77	8.0	76	3221			1219			704	567	1024	0.02	0.04									4.5-	DWR
1-30	est.					58	55	1856	0.0	0.00	234	821	1160	10	0.4	1.20	1	9450	58	2905	2713	25	7,000+	DWR	
2-17-63	3	70		13060	5.4			8074	0.15	0.00	334	1711	1173	0.16	0.028									7,000+	DWR
est.	est.					2924	2530																	7,000+	DWR

TABLE D-7  
ANALYSES OF SURFACE WATER

JAN DELCO REALTOR SERVICE

TIA JAWA RIVER AT INTERNATIONAL BOUNDARY (Action 6)

Date and time sampled P.S.T.	Discharge Temp in cts in F	Dissolved oxygen ppm	Specific conductance at 25°C	pH	Mineral constituents in parts per million										Total dissolved solids in ppm	Hardness as CaCO <sub>3</sub> Total ppm	Tur- bidity MPN/ml	Analyzed by C
					Calcium (Ca)	Magne- sium (Mg)	Sodium (Na)	Potas- sium (K)	Carbon- ate (CO <sub>3</sub> )	Bicar- bonate (HCO <sub>3</sub> )	Sul- fure (SO <sub>4</sub> )	Chlo- ride (Cl)	Ni- trate (NO <sub>3</sub> )	Fluor- ide (F)				
Water Year 1966-1967																		
11-8-62	Dry																	
11-6	No flow																	
1-8-63	Dry																	
0955	No flow																	
3-63	Dry																	
	No flow																	
7-8-63	Dry																	
1300	No flow																	
9-16-63	Dry																	
1300	No flow																	

## RADIOASSAYS OF SURFACE WATER

## CENTRAL COASTAL DRAINAGE PROVINCE (T)

Station	Sta No	Date	Micro-micro curies per liter		Solid Beta
			Dissolved Alpha	Solid Alpha	
<u>Water Year 1962-1963</u>		<u>1963</u>			
Cuyama River near Garey	44a	5- 6 9- 3	0.2 ± 0.3 Dry -no report	0.0 ± 0.2	8.4 ± 6.2 4.5 ± 6.2
Santa Ynez River at Cachuma Reservoir	44b	5- 6 9- 4	0.3 ± 0.4 0.1 ± 0.3	0.0 ± 0.3 0.0 ± 0.3	6.0 ± 6.3 9.1 ± 6.2
Santa Ynez River near Solvang	45a	5- 6 9- 3	0.1 ± 0.4 Dry -no report	0.0 ± 0.3	6.0 ± 6.3 0.0 ± 6.2

TABLE D-9  
 RADIOASSAYS OF SURFACE WATER  
 LOS ANGELES DRAINAGE PROVINCE (U)

Station	Sta. No.	Date	Micro-micro curies per liter		
			Dissolved Alpha	Solid Alpha	Dissolved Beta
<u>Water Year 1962-1963</u>					
Matilija Creek above Matilija Dam	45b	1963 5- 7 9- 4	0.0 + 0.3 0.1 ± 0.4	0.0 + 0.3 0.0 ± 0.3	0.0 + 6.3 6.1 ± 6.2
Santa Clara River at Los Angeles-Ventura County Line	46	5- 8 9- 4	0.1 + 0.3 0.0 ± 0.2	0.0 + 0.3 0.2 ± 0.3	2.4 + 6.5 13.8 ± 6.1
Santa Clara River near Santa Paula	46a	5- 7 9- 4	0.1 + 0.3 0.0 ± 0.4	0.4 + 0.4 1.0 ± 0.6	9.2 + 6.3 7.7 ± 6.2
Piru Creek near Piru	46c	5- 7 9- 4	0.4 + 0.5 0.7 ± 0.5	0.0 + 0.4 2.8 ± 0.8	9.9 + 6.2 0.0 ± 6.3
Sespe Creek near Fillmore	46d	5- 7 9- 4	0.2 + 0.4 0.5 ± 0.5	0.8 + 0.5 0.1 ± 0.5	2.0 ± 6.1 7.5 ± 6.2
Santa Paula Creek near Santa Paula	46e	5- 7 9- 4	0.0 + 0.4 0.0 ± 0.3	0.0 + 0.3 0.1 ± 0.3	0.0 + 6.3 5.3 ± 6.2
Los Angeles River at Figueroa Street	47	5- 8 9- 5	0.5 ± 0.4 1.2 ± 0.6	0.1 ± 0.2 0.7 ± 0.5	3.2 ± 6.5 15.9 ± 7.0
Los Angeles River at Pacific Coast Highway	48	5- 8 9- 5	0.0 + 0.4 0.1 ± 0.4	0.8 + 0.6 4.5 ± 1.0	11.6 ± 6.4 43.7 ± 6.7
					1.1 + 6.3 2.5 + 6.1 0.0 + 6.3 6.6 ± 6.1 0.0 + 6.1 8.2 ± 6.2 4.4 + 6.1 0.0 ± 6.2 7.4 + 6.2 1.4 ± 6.1 0.0 + 6.3 1.0 ± 6.2 0.0 + 6.3 12.1 ± 6.4 4.7 + 6.2 52.7 ± 6.9

## RADIOASSAYS OF SURFACE WATER

LOS ANGELES DRAINAGE PROVINCE (U)  
(continued)

Station	Sta. No.	Date	Micro-micro curies per liter			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
<u>Water Year 1962-1963</u>						
Rio Hondo at Whittier Narrows	49	5-9 9-5	0.2 ± 0.4 0.4 ± 0.5	0.0 ± 0.3 0.1 ± 0.4	9.2 ± 6.5 23.5 ± 6.5	0.0 ± 6.3 0.2 ± 6.1
Mission Creek at Whittier Narrows	49a	5-9 9-5	0.6 ± 0.4 Dry -no report	0.2 ± 0.3	9.7 ± 6.3	7.9 ± 6.2
Rio Hondo above Spreading Grounds	49b	5-9 9-5	0.6 ± 0.3 0.0 ± 0.3	0.4 ± 0.3 0.0 ± 0.3	18.1 ± 6.4 44.8 ± 6.6	1.0 ± 6.2 10.4 ± 6.1
San Gabriel River at Whittier Narrows	50	5-9 9-5	Dry -no report Dry -no report			
San Gabriel River at Azusa Power House	50d	5-9 9-6	0.0 ± 0.4 0.0 ± 0.2	0.0 ± 0.3 0.3 ± 0.4	9.7 ± 6.3 1.7 ± 6.1	0.0 ± 6.0 0.0 ± 6.0
Ventura River near Ventura	61	5-7 9-4	0.4 ± 0.4 0.0 ± 0.4	0.1 ± 0.3 0.0 ± 0.4	0.0 ± 6.2 9.8 ± 6.3	0.0 ± 6.1 4.4 ± 6.2
Los Angeles Aqueduct near San Fernando Upper Van Norman Inlet	70		See Page D-62	For Radioassay		
Colorado River Aqueduct near La Verne	69		See Page D-65	For Radioassay		

TABLE D-9  
 RADIOASSAY OF SURFACE WATERS  
 LOS ANGELES DRAINAGE PROVINCE (U)  
 Analyses Received from the Los Angeles  
 Department of Water and Power

Source and sampling point	Date sampled	Micro-micro curies/liter Beta-Gamma Count*
Upper Van Norman Inlet	Oct. 1, 1962	2.9 ± 4.1
(Los Angeles Aqueduct near San Fernando Station 70)	Oct. 8, 1962	6.0 ± 2.7
	Oct. 15, 1962	4.1 ± 2.7
	Oct. 22, 1962	10.0 ± 2.9
	Oct. 29, 1962	14.7 ± 3.0
	Nov. 5, 1962	7.0 ± 2.7
	Nov. 14, 1962	9.6 ± 2.9
	Nov. 19, 1962	5.4 ± 2.8
	Nov. 26, 1962	10.0 ± 2.9
	Dec. 3, 1962	8.6 ± 2.9
	Dec. 10, 1962	6.0 ± 2.8
	Dec. 17, 1962	8.7 ± 2.9
	Dec. 26, 1962	9.3 ± 3.0
	Jan. 2, 1963	5.8 ± 3.2
	Jan. 7, 1963	7.7 ± 3.2
	Jan. 14, 1963	7.5 ± 3.3
	Jan. 21, 1963	7.5 ± 3.3
Jan. 28, 1963	20.5 ± 3.7	
Feb. 4, 1963	11.1 ± 3.4	

TABLE D-9

## RADIOASSAY OF SURFACE WATERS

## LOS ANGELES DRAINAGE PROVINCE (U)

Analyses Received from the Los Angeles  
Department of Water and Power  
(continued)

Source and sampling point	Date sampled	Micro-micro curies/liter Beta-Gamma Count*
(Los Angeles Aqueduct near San Fernando Station 70)	Feb. 11, 1963	) Aqueduct shut down 2-9-63 to 2-23-63
	Feb. 18, 1963	)
	Feb. 25, 1963	)
	Mar. 4, 1963	10.8 ± 3.4
	Mar. 11, 1963	11.5 ± 3.4
	Mar. 18, 1963	14.9 ± 3.5
	Mar. 25, 1963	16.1 ± 3.5
	Apr. 1, 1963	11.7 ± 3.4
	Apr. 8, 1963	11.0 ± 3.4
	Apr. 15, 1963	11.2 ± 3.7
	Apr. 22, 1963	13.4 ± 3.6
	Apr. 29, 1963	15.8 ± 3.5
	May 1, 1963	12.1 ± 3.4
	May 6, 1963	12.3 ± 3.5
	May 13, 1963	7.7 ± 3.4
	May 20, 1963	14.1 ± 3.4
	May 24, 1963	11.4 ± 3.4
	June 3, 1963	11.5 ± 3.4
	June 10, 1963	12.3 ± 3.4

TABLE D-9

## RADIOASSAY OF SURFACE WATERS

## LOS ANGELES DRAINAGE PROVINCE (U)

Analyses Received from the Los Angeles  
Department of Water and Power  
(continued)

Source and sampling point	Date sampled	Micro-micro curies/liter Beta-Gamma Count*
(Los Angeles Aqueduct near San Fernando Station 70)	June 17, 1963	21.8 ± 3.7
	June 24, 1963	16.4 ± 3.6
	July 1, 1963	19.9 ± 3.7
	July 8, 1963	18.0 ± 3.5
	July 15, 1963	14.3 ± 3.4
	July 22, 1963	13.9 ± 3.4
	July 29, 1963	10.8 ± 3.5
	Aug. 5, 1963	13.3 ± 3.4
	Aug. 12, 1963	14.1 ± 3.4
	Aug. 19, 1963	11.8 ± 3.5
	Aug. 26, 1963	5.1 ± 3.2
	Sept. 3, 1963	5.2 ± 3.1
	Sept. 9, 1963	7.3 ± 3.2
	Sept. 23, 1963	23.8 ± 4.7
	Sept. 30, 1963	9.1 ± 3.9

\*Deviations reported at 95 percent confidence level in 1963 and 90 percent confidence level prior to 1963.



TABLE D-9

## RADIOASSAY OF SURFACE WATERS

## LOS ANGELES DRAINAGE PROVINCE (U)

Analyses Received from The Metropolitan  
Water District of Southern California

Source and sampling point	Date sampled	Gross Alpha uuc/l.*	Gross Beta uuc/l.*
Colorado River Influent at F. E. Weymouth Softening and Filtration Plant	Mar. 1962	4.0	21.9
(Colorado River Aqueduct at La Verne, Station 69)	Apr. 1962	4.5	11.5
	May 1962	4.0	7.3
	June 1962	2.9	7.1
	July 1962	5.6	15.4
	Aug. 1962	4.5	5.0
	Sept. 1962	7.6	15.4
	Oct. 1962	3.1	15.9
	Nov. 1962	3.5	10.5
	Dec. 1962	5.9	11.4
	Jan. 1963	2.5	12.9
	Feb. 1963	2.8	34.0
	Mar. 1963	6.5	17.8
	Apr. 1963	3.7	43.3
	May 1963	4.7	21.2
	June 1963	4.6	24.1
	July 1963	3.6	10.8
Aug. 1963	2.5	15.6	

TABLE D-9

## RADIOASSAY OF SURFACE WATERS

## LOS ANGELES DRAINAGE PROVINCE (U)

Analyses Received from The Metropolitan  
Water District of Southern California  
(continued)

Source and sampling point	Date sampled	Gross Alpha uuc/l.*	Gross Beta uuc/l.*
(Colorado River Aqueduct at La Verne, Station 69)	Sept. 1963	6.4	23.2
	Oct. 1963	5.1	10.3

\*Unit = micromicrocuries per liter. Unless otherwise stated, the maximum statistical deviation in counting at the 90 percent confidence level for alpha is  $\pm 0.7$  uuc/l. and for beta is  $\pm 2.6$  uuc/l.

## RADIOASSAYS OF SURFACE WATER

LAHONTAN DRAINAGE PROVINCE (W)

Station	Sta No	Date	Micro-micro curies per liter			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
<u>Water Year 1962-1963</u>		<u>1963</u>				
Mojave River near Victorville	67	5-9 9-6	0.5 ± 0.5 0.2 ± 0.4	0.0 ± 0.3 0.2 ± 0.4	0.0 ± 6.2 2.8 ± 6.1	0.0 ± 6.2 4.8 ± 6.1
Mojave River at the Forks	67a	5-9 9-6	0.1 ± 0.5 0.1 ± 0.4	0.0 ± 0.5 0.0 ± 0.4	6.6 ± 6.4 0.0 ± 6.2	0.0 ± 6.2 0.0 ± 6.2

TABLE D-11  
 RADIOASSAYS OF SURFACE WATER  
 COLORADO RIVER DRAINAGE PROVINCE (X)

Station	Sta No	Date	Micro-micro curies per liter			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
<u>Water Year 1962-1963</u>						
Colorado River near Topock, Arizona	54	1963 5-16 9-19	0.6 ± 0.4 0.0 ± 0.6	0.9 ± 0.5 0.4 ± 0.7	10.5 ± 6.2 6.6 ± 6.2	3.5 ± 6.3 11.6 ± 6.2
Colorado River below Parker Dam	55	5-16 9-19	0.7 ± 0.4 0.3 ± 0.4	0.4 ± 0.4 0.0 ± 0.3	5.2 ± 6.4 10.5 ± 6.1	0.0 ± 6.2 5.6 ± 6.0
Colorado River at Yuma, Arizona	56	5-15 9-11	0.0 ± 0.3 0.1 ± 0.3	1.1 ± 0.5 0.1 ± 0.3	2.4 ± 6.3 5.9 ± 6.1	0.8 ± 6.3 2.8 ± 6.0
All American Canal near Pilot Knob	56a	5-15 9-11	0.3 ± 0.3 0.2 ± 0.4	0.0 ± 0.2 0.1 ± 0.4	4.4 ± 6.4 6.0 ± 6.2	0.0 ± 6.3 2.2 ± 6.2
Colorado River below Morelos Dam	56b	5-15 9-11	0.0 ± 0.2 0.0 ± 0.5	0.5 ± 0.4 0.0 ± 0.4	0.0 ± 6.3 1.6 ± 6.2	0.0 ± 6.3 1.5 ± 6.2
Colorado River near Blythe	56c	5-16 9-19	0.7 ± 0.4 0.0 ± 0.4	0.9 ± 0.5 1.5 ± 0.6	10.8 ± 6.3 7.8 ± 6.2	7.0 ± 6.2 14.9 ± 6.4
Lake Havasu, Colorado River Aqueduct at Intake	56d	Reported by USGS				
New River at International Boundary	57	5-14 9-11	0.0 ± 0.3 0.0 ± 0.3	0.6 ± 0.4 0.5 ± 0.4	17.7 ± 6.5 14.4 ± 6.5	0.0 ± 6.1 0.0 ± 6.2
New River near Westmorland	58	5-14 9-10	0.0 ± 0.2 0.2 ± 0.4	1.0 ± 0.5 1.2 ± 0.6	3.8 ± 6.4 14.9 ± 6.2	6.8 ± 6.4 17.8 ± 6.3
Alamo River at International Boundary	59	5-14 9-11	0.1 ± 0.2 0.0 ± 0.2	0.5 ± 0.3 0.3 ± 0.3	10.8 ± 6.3 13.3 ± 6.3	3.7 ± 6.2 0.3 ± 6.1
Alamo River near Calipatria	60	5-14 9-10	0.3 ± 0.4 0.1 ± 0.3	0.6 ± 0.5 0.9 ± 0.5	16.0 ± 6.4 4.6 ± 6.2	7.2 ± 6.2 13.6 ± 6.3

## RADIOASSAYS OF SURFACE WATER

COLORADO RIVER DRAINAGE PROVINCE (X)  
(continued)

Station	Sta No	Date	Micro-micro curies per liter			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
<u>Water Year 1962-1963</u>		<u>1963</u>				
Whitewater River near Whitewater	68	5-14 9-11	1.2 ± 0.6 0.1 ± 0.4	0.1 ± 0.4 0.0 ± 0.4	1.6 ± 6.3 0.0 ± 6.2	5.7 ± 6.2 0.0 ± 6.2
Salton Sea at Salton Sea State Park	68a	5-14 9-11	0.0 ± 0.2 0.1 ± 0.3	0.3 ± 0.4 0.1 ± 0.2	21.7 ± 6.5 24.9 ± 6.5	0.0 ± 6.1 1.9 ± 6.1
Whitewater River near Mecca	68b	5-14 9-11	0.0 ± 0.4 0.3 ± 0.4	1.5 ± 0.7 1.4 ± 0.6	22.2 ± 6.4 8.9 ± 6.3	25.2 ± 6.5 42.6 ± 6.9

TABLE D-12  
RADIOASSAYS OF SURFACE WATER

SANTA ANA DRAINAGE PROVINCE (Y)

Station	Sto. No.	Date	Micro-micro curies per liter			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
<u>Water Year 1962-1963</u>						
Warm Creek at Colton	50b	<u>1963</u> 5-10 9-6	0.3 + 0.3 0.2 ± 0.4	0.7 + 0.4 0.1 ± 0.3	12.9 + 6.4 15.0 ± 6.3	0.0 + 6.1 10.7 ± 6.2
Warm Creek at San Bernardino	50c	5-10 9-6	Dry -no report Dry -no report			
Santa Ana River near Arlington	51	5-10 9-13	0.9 + 0.4 0.7 ± 0.6	0.4 + 0.3 0.8 ± 0.6	2.3 + 6.2 2.6 ± 6.1	0.0 + 6.2 2.0 ± 6.1
Santa Ana River below Prado Dam	51a	5-10 9-13	0.9 + 0.5 0.6 ± 0.4	0.5 + 0.4 0.4 ± 0.4	3.0 + 6.4 2.7 ± 6.1	0.0 + 6.3 2.1 ± 6.1
Santa Ana River near Mentone	51b	5-10 9-6	1.7 + 0.6 2.7 ± 0.8	0.4 + 0.5 0.3 ± 0.4	3.3 + 6.4 4.7 ± 6.2	0.0 + 6.3 0.0 ± 6.1
Santa Ana River near Norco	51e	5-10 9-13	0.7 + 0.5 1.5 ± 0.7	0.2 + 0.4 0.0 ± 0.5	9.8 + 6.2 11.6 ± 6.2	11.3 + 6.2 6.7 ± 6.1
Chino Creek near Chino	86	5-9 9-11	Dry -no report 0.0 + 0.4	0.4 ± 0.5	22.8 ± 6.4	2.3 ± 6.1
Lake Elsinore at North Shore	89	5-13 9-17	Dry -no report Dry -no report			

## RADIOASSAYS OF SURFACE WATER

## SAN DIEGO DRAINAGE PROVINCE (2)

Station	Site No	Date	Micro-micro curies per liter			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
<u>Water Year 1962-1963</u>		<u>1963</u>				
Santa Margarita River near Fallbrook	51c	5-13 9-17	0.0 + 0.3 0.0 ± 0.3	0.3 ± 0.4 0.0 ± 0.4	9.4 + 6.2 5.4 ± 6.3	7.7 ± 6.1 2.4 ± 6.2
San Luis Rey River near Pala	62	5-13 9-17	Dry -no report Dry -no report			
Escondido Creek near Harmony Grove	63	5-13 9-17	0.0 + 0.4 0.0 ± 0.2	1.0 + 0.5 0.1 ± 0.3	15.7 + 6.4 10.2 ± 6.2	4.3 + 6.2 5.7 ± 6.2
San Dieguito River below San Pasqual Valley	64	5-13 9-17	Dry -no report Dry -no report			
San Diego River at Old Mission Dam	65	5-13 9-17	0.3 + 0.3 0.2 ± 0.3	0.6 + 0.4 0.6 ± 0.4	8.5 + 6.2 2.1 ± 6.3	1.0 + 6.3 0.0 ± 6.2
Forester Creek at Mission Gorge Road	65a	5-13 Discontinued as of 7-1-63	Dry -no report			
Spring Valley Creek near La Pressa	65b	5-13 9-17	0.1 + 0.4 0.1 ± 0.3	1.6 + 0.7 0.4 ± 0.3	21.3 + 6.4 26.4 ± 6.5	11.7 + 6.3 44.5 ± 6.7
San Diego River near Mission Gorge Road	65c	5-13 9-17	0.3 + 0.4 0.4 ± 0.4	0.2 + 0.4 0.0 ± 0.3	9.6 + 6.3 17.2 ± 6.4	0.0 + 6.2 0.0 ± 6.1
Tia Juana River at International Boundary	66	5-13 9-16	Dry -no report Dry -no report			

TABLE D-14  
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1962-1963

CENTRAL CANADIAN DRAINAGE PROVINCE I

Station	Site No	Date	Constituents in parts per million															
			Aluminum (Al)	Beryllium (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chromium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Germanium (Ge)	Manganese (Mn)	Molybdenum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Vanadium (V)
Cuyass River near Carey	1414	May 1963	0.05	--A	--A	0.00	0.00	0.00	0.009	0.07	--B	0.00	0.02	0.00	0.00	--A	--A	0.00



TABLE D-14  
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1962-1963

CENTRAL COASTAL DRAINAGE PROVINCE

Station	Site No	Date	Constituents in parts per billion																
			Aluminum (Al)	Beryllium (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chromium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Germanium (Ge)	Manganese (Mn)	Molybdenum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Vanadium (V)	Zinc (Zn)
Santa Inez River at Cachuma Reservoir	44 <sup>b</sup>	Sept. 1963	5.7	0.57 <sup>b</sup>	0.29 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	300 <sup>d</sup>	4.3	5.7 <sup>b</sup>	0.29 <sup>b</sup>	1.4 <sup>b</sup>	7.7	2.9	1.4 <sup>b</sup>	0.57 <sup>b</sup>	9.1	5.7 <sup>b</sup>

b. Results are less than the amount indicated.  
d. Results are more than the amount indicated.

TABLE D-15  
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1962-1963  
LOS ANGELES DRAINAGE DISTRICT

Station	Site No	Date	Constituents in parts per million																
			Alum. (Al)	Beryl. (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chro. ium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Germani- um (Ge)	Manga- nese (Mn)	Molyb- denum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Vanadium (V)	Zinc (Zn)
Santa Clara River at L.A.-Ventura County Line	46	May 1963	0.03	-- <sup>a</sup>	-- <sup>a</sup>	0.00	0.00	0.00	0.004	0.07	-- <sup>a</sup>	0.00	0.16	0.00	0.00	0.00	-- <sup>a</sup>	-- <sup>a</sup>	0.00
Santa Clara River at Santa Paula	46a	May 1963	0.05	-- <sup>a</sup>	-- <sup>a</sup>	0.00	0.00	0.004	0.02	0.10	-- <sup>a</sup>	0.00	0.12	0.04	0.00	Trace	-- <sup>a</sup>	-- <sup>a</sup>	0.00
Los Angeles River at Figueroa Street	47	May 1963	0.05	-- <sup>a</sup>	-- <sup>a</sup>	0.00	0.00	0.00	0.01	0.4	-- <sup>a</sup>	0.00	0.00	0.00	0.00	0.00	-- <sup>a</sup>	-- <sup>a</sup>	0.00
Los Angeles River at Pacific Coast Highway	48	May 1963	0.33	-- <sup>a</sup>	-- <sup>a</sup>	0.00	0.00	0.04	0.42	0.72	-- <sup>a</sup>	0.00	Trace	0.00	0.00	0.00	-- <sup>a</sup>	-- <sup>a</sup>	0.00
Rio Hondo at Whittier Narrows	49	May 1963	0.05	-- <sup>a</sup>	-- <sup>a</sup>	0.00	0.00	0.008	0.02	0.03	-- <sup>a</sup>	0.00	0.10	0.02	0.00	0.00	-- <sup>a</sup>	-- <sup>a</sup>	0.00
Mission Creek at Whittier Narrows	49a	May 1963	0.13	-- <sup>a</sup>	-- <sup>a</sup>	0.00	0.00	0.001	0.003	0.08	-- <sup>a</sup>	0.00	0.02	Trace	Trace	0.00	-- <sup>a</sup>	-- <sup>a</sup>	0.00
Ventura River near Ventura	61	May 1963	0.05	-- <sup>a</sup>	-- <sup>a</sup>	0.00	0.00	Trace	0.01	0.05	-- <sup>a</sup>	0.00	0.00	0.00	0.00	Trace	-- <sup>a</sup>	-- <sup>a</sup>	0.00

a. Was not analyzed for this constituent.

TABLE D-15  
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1962-1963

LOS ANGELES DRAINAGE PROVINCE II

Station	Sta. No.	Date	Constituents in parts per billion																
			Alum. num. (Al)	Beryllium (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chromium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Germanium (Ge)	Manganese (Mn)	Molybdenum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Vanadium (V)	Zinc (Zn)
Santa Clara River at L.A.-Ventura County Line	46	Sept. 1963	4.6	0.57 <sup>b</sup>	0.29 <sup>b</sup>	1.1 <sup>b</sup>	1.1 <sup>b</sup>	1.1 <sup>b</sup>	1.1 <sup>b</sup>	1.1 <sup>b</sup>	1.1 <sup>b</sup>	1.1 <sup>b</sup>	1.4 <sup>b</sup>	8.0	1.4	1.4 <sup>b</sup>	0.57 <sup>b</sup>	0.29 <sup>b</sup>	5.7
Santa Clara River at Santa Paula	46a	Sept. 1963	5.7	0.57 <sup>b</sup>	0.29 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	4.9	23	4.9	1.4 <sup>b</sup>	0.57 <sup>b</sup>	0.57 <sup>b</sup>	8.9
Los Angeles River at Figueroa Street	47	Sept. 1963	7.7	0.57 <sup>b</sup>	0.29 <sup>b</sup>	1.1 <sup>c</sup>	1.1 <sup>c</sup>	1.1 <sup>c</sup>	1.1 <sup>c</sup>	1.1 <sup>c</sup>	1.1 <sup>c</sup>	17	15 <sup>d</sup>	16	15 <sup>d</sup>	6.0	0.57 <sup>b</sup>	20	5.7 <sup>b</sup>
Los Angeles River at Pacific Coast Highway	48	Sept. 1963	34	0.57 <sup>b</sup>	0.29 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	83	25	0.29 <sup>c</sup>	25	1.4 <sup>b</sup>	0.57 <sup>b</sup>	17	5.7 <sup>b</sup>
Rio Honda at Whittier Narrows	49	Sept. 1963	11	0.57 <sup>b</sup>	0.29 <sup>b</sup>	1.1 <sup>b</sup>	1.1 <sup>b</sup>	1.1 <sup>b</sup>	1.1 <sup>b</sup>	1.1 <sup>b</sup>	9.1	15	0.83	15	0.83	1.4 <sup>b</sup>	0.57 <sup>b</sup>	18	5.7 <sup>b</sup>
Rio Honda above spreading grounds	49b	Sept. 1963	9.7	0.57 <sup>b</sup>	0.29 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	15	51	20 <sup>d</sup>	7.1	20 <sup>d</sup>	1.4 <sup>b</sup>	0.57 <sup>b</sup>	13	5.7 <sup>b</sup>
San Gabriel River at Asusa Powerhouse	50d	Sept. 1963	3.1	0.57 <sup>b</sup>	0.29 <sup>b</sup>	1.1 <sup>b</sup>	1.1 <sup>b</sup>	1.1 <sup>b</sup>	1.1 <sup>b</sup>	1.1 <sup>b</sup>	5.1	4.6	0.80	4.6	0.80	1.4 <sup>b</sup>	0.57 <sup>b</sup>	7.4	5.7 <sup>b</sup>
Ventura River near Ventura	61	Sept. 1963	3.1	0.57 <sup>b</sup>	0.29 <sup>b</sup>	1.1 <sup>b</sup>	1.1 <sup>b</sup>	1.1 <sup>b</sup>	1.1 <sup>b</sup>	1.1 <sup>b</sup>	5.4	6.6	1.6	6.6	1.6	1.4 <sup>b</sup>	0.57 <sup>b</sup>	0.29 <sup>c</sup>	5.7 <sup>b</sup>

b. Results are less than the amount indicated.  
c. Results are approximate to the amount indicated.  
d. Results are more than the amount indicated.

TABLE D-16  
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1962-1963

COLORADO RIVER BASIN DRAINAGE PROGRAM, E. X.

Station	Site No	Date	Constituents in parts per million																	
			Aluminum (Al)	Beryllium (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chromium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Germanium (Ge)	Manganese (Mn)	Molybdenum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Vanadium (V)	Zinc (Zn)	
Colorado River at Yuma, Arizona	56	May 1963	0.14	-- <sup>a</sup>	-- <sup>a</sup>	0.00	0.00	0.00	0.00	0.00	0.00	0.47	-- <sup>a</sup>	0.00	0.04	Trace	0.00	0.00	-- <sup>a</sup>	0.00

a. Was not analyzed for this constituent.

TABLE D-16  
SPECTROGRAPHIC ANALYSES OF SURFACE WATER  
WATER YEAR 1962-1963

COLORADO RIVER BASIN DRILLAGE PROVINCE 5

Station	Sta No	Date	Constituents in parts per billion																	
			Alumi- num (Al)	Beryl- lium (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chro- mium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Germa- nium (Ge)	Manga- nese (Mn)	Molyb- denum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Vanadium	Zinc (Zn)	
Colorado River near Topock, Arizona	54	Sept. 1963	4.6	0.57 <sup>b</sup>	0.29 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	6.3	5.7 <sup>b</sup>	0.29 <sup>b</sup>	11	15	1.2	1.4 <sup>b</sup>	0.57 <sup>b</sup>	9.4	6.3
Colorado River at Yuma, Arizona	56	Sept. 1963	5.4	0.57 <sup>b</sup>	0.29 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>c</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	4.6	4.6	5.7 <sup>b</sup>	0.29 <sup>b</sup>	1.4 <sup>b</sup>	20	1.3	1.4 <sup>b</sup>	0.57 <sup>b</sup>	7.7	5.7 <sup>b</sup>

b. Results are less than the amount indicated.  
c. Results are approximate to the amount indicated.

TABLE D-17  
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1962-1963  
SANTA ANA DRILLAGE PROVINCE Y

Station	Site No	Date	Constituents in parts per million																
			Alum. (Al)	Beril. (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chro- mium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Cerma- num (Ce)	Manga- nese (Mn)	Molyb- denum (Mo)	Nickel (Ni)	Lead (Pb)	Tritium (T)	Vanadium (V)	Zinc (Zn)
Harm Creek at Colton	50b	May 1963	0.140	-- <sup>a</sup>	-- <sup>a</sup>	0.00	0.00	0.04	0.04	0.3	-- <sup>a</sup>	0.00	0.06	0.01	0.06	0.10	-- <sup>a</sup>	-- <sup>a</sup>	0.00
Santa Ana River near Arlington	51	May 1963	1.0	-- <sup>a</sup>	-- <sup>a</sup>	0.00	0.00	0.005	0.004	0.8	-- <sup>a</sup>	0.00	0.06	Trace	0.00	0.00	-- <sup>a</sup>	-- <sup>a</sup>	0.00
Santa Ana River below Prado Dam	51 <sup>a</sup>	May 1963	1.9	-- <sup>a</sup>	-- <sup>a</sup>	0.00	0.00	0.006	0.006	2.0	-- <sup>a</sup>	0.00	0.10	0.01	0.00	Trace	-- <sup>a</sup>	-- <sup>a</sup>	0.00
Santa Ana River near Norco	51e	May 1963	0.6	-- <sup>a</sup>	-- <sup>a</sup>	0.00	0.00	0.002	0.007	0.9	-- <sup>a</sup>	0.00	0.3	0.01	Trace	Trace	-- <sup>a</sup>	-- <sup>a</sup>	0.00

TABLE D-17  
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1962-1963

SANTA ANA DRAINAGE PROVINCE - Y

Station	Site No.	Date	Constituents in parts per billion																
			Alum. num. (A)	Beryllium (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chromium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Selenium (Se)	Manganese (Mn)	Molybdenum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Vanadium (V)	Zinc (Zn)
Warm Creek at Colton	50b	Sept. 1963	5.1	0.57 <sup>b</sup>	0.29 <sup>b</sup>	??	1.4 <sup>b</sup>	1.6	1.4 <sup>b</sup>	1.3	5.7 <sup>b</sup>	0.29 <sup>b</sup>	8.3	6.6	10 <sup>d</sup>	0.68	0.57 <sup>b</sup>	7.7	5.7 <sup>b</sup>
Santa Ana River near Arlington	51	Sept. 1963	3.1	0.57 <sup>b</sup>	0.29 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	3.7	5.7 <sup>b</sup>	0.29 <sup>b</sup>	1.4 <sup>b</sup>	6.6	0.63	1.4 <sup>b</sup>	0.57 <sup>b</sup>	10	5.7 <sup>b</sup>
Santa Ana River below Prado Dam	51a	Sept. 1963	4.0	0.57 <sup>b</sup>	0.29 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	9.7	5.7 <sup>b</sup>	0.29 <sup>b</sup>	1.4 <sup>b</sup>	9.1	0.77	1.4 <sup>b</sup>	0.57 <sup>b</sup>	16	5.7 <sup>b</sup>
Santa Ana River near Mentone	51b	Sept. 1963	3.7	0.57 <sup>b</sup>	0.29 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	10	5.7 <sup>b</sup>	0.29 <sup>b</sup>	1.4 <sup>b</sup>	4.0	0.29 <sup>c</sup>	1.4 <sup>b</sup>	0.57 <sup>b</sup>	3.4	5.7 <sup>b</sup>
Santa Ana River near Morco	51c	Sept. 1963	6.3	0.57 <sup>b</sup>	0.29 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	8.9	5.7 <sup>b</sup>	0.29 <sup>b</sup>	1.4 <sup>b</sup>	11	1.5	1.4 <sup>b</sup>	0.57 <sup>b</sup>	12	5.7 <sup>b</sup>

b. Results are less than the amount indicated.  
c. Results are approximate to the amount indicated.  
d. Results are more than the amount indicated.

TABLE D-18  
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1963-1963

SAN DIEGO DRAINAGE PROVINCE

Station	Sta No	Date	Constituents in parts per million																
			Aluminum (Al)	Beryllium (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chromium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Germanium (Ge)	Manganese (Mn)	Molybdenum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Niobium (V)	Zinc (Zn)
Escondido Creek near Harmony Grove	63	May 1963	1.1	-- <sup>a</sup>	-- <sup>a</sup>	0.00	0.00	0.00	0.02	3-9	-- <sup>a</sup>	0.00	0.1	0.03	0.01	0.00	-- <sup>a</sup>	-- <sup>a</sup>	0.00

a. Not analyzed for this constituent.



TABLE D-18  
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

WATER YEAR 1962-1963

SAN DIEGO DRAINAGE PROVINCE 1

Station	Site No.	Date	Constituents in parts per billion																	
			Alum. num. (Al)	Beryl. num. (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chro. mium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Manga- nese (Mn)	Molyb- denum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Vanadium (V)	Zinc (Zn)		
Escondido Creek near Harmony Grove	63	Sept. 1963	5.1	0.57 <sup>b</sup>	0.29 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	34	5.7 <sup>b</sup>	0.29 <sup>b</sup>	91	10	19	1.4 <sup>b</sup>	0.57 <sup>b</sup>	0.29 <sup>c</sup>	5.7 <sup>b</sup>
	65 <sup>c</sup>	Sept. 1963	11	0.57 <sup>b</sup>	0.29 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	1.4 <sup>b</sup>	16	5.7 <sup>b</sup>	0.29 <sup>b</sup>	100 <sup>d</sup>	7.1	11	1.4 <sup>b</sup>	0.57 <sup>b</sup>	13	5.7 <sup>b</sup>

b. Results are less than the amount indicated.  
c. Results are approximate to the amount indicated.  
d. Results are more than the amount indicated.



APPENDIX E

GROUND WATER QUALITY DATA



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APPENDIX E

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TABLE E-1  
MINERAL ANALYSES OF GROUND WATER 1963  
CENTRAL COASTAL DRAINAGE PROVINCE (T)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million equivalents per million reactance value				Mineral constituents in parts per million									
				Calcium Mg	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	Total Dissolved Solids Computed	
SALINAS HYDRO UNIT																	
T09H0																	
PASO ROBLES HYDRO SUBUNIT																	
T0900																	
24S/12F-17L 2 M 9-23-63	74	7.3	1462	101 5.04 31	63 5.18 42	140 6.09 37	5 0.13 1	0	320 5.24 32	469 9.76 59	47 1.33 8	5.5 0.09 1	0.6	0.46	50	1075 1039	511
24S/15F-17E 1 M 9-24-63	66	7.8	1664	52 2.59 14	100 8.22 44	180 7.83 42	4 0.10 1	0	525 8.60 46	294 6.12 32	145 4.09 22	4.0 0.06	0.5	1.35	40	1020 1079	541
25S/12F-16N 1 M 9-23-63	68	7.6	814	27 1.85 21	40 3.29 38	80 3.48 40	3 0.08 1	0	303 4.97 57	76 1.58 18	68 1.92 22	15. 0.24 2	0.7	0.35	47	480 516	257
26S/14F-25D 1 M 9-24-63	77	7.6	478	41 2.05 43	10 0.82 17	42 1.83 38	4 0.10 2	0	176 2.88 61	24 0.50 11	43 1.21 25	10. 0.16 3	0.5	0.06	40	300 301	144
26S/16E-31B 1 M 9-26-63	74	7.9	1634	34 1.70 10	21 1.73 10	310 13.48 79	2 0.05	0	339 5.56 33	354 7.37 44	107 3.02 18	52. 0.84 5	1.2	2.00	32	1060 1082	172
27S/12E-24R 1 M 9-27-63	--	7.4	786	104 5.24 62	17 1.40 17	40 1.74 21	3 0.08 1	0	217 5.11 61	48 1.00 12	69 1.95 23	19. 0.31 4	0.5	0.06	60	520 515	222

TABLE E-1

MINERAL ANALYSES OF GROUND WATER 1963  
CENTRAL COASTAL DRAINAGE PROVINCE (T)

State well number Date sampled	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million							parts per million equivalents per percent				Mineral constituents in parts per million			
				Calcium Co	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	Ni- trate NO <sub>3</sub>	Fluo- ride F	Boron B	Sili- co SiO <sub>2</sub>	I.D.S. Evap. 100°C	Total Hardness as CaCO <sub>3</sub>	
SANTA MARIA HYDRO SUBUNIT																		
T1240																		
9N/22W-17G 1 S 10-14-63	64	8.3	1140	120 5.99 41	71 5.84 40	60 2.61 18	3 0.08 1	4 0.13 1	301 4.93 34	400 8.33 57	32 0.90 6	22.5 0.35 2	0.2	0.24	19	970 879	592	
9N/33W-9A 1 S 7-18-63	--	6.9	602	13 0.65 12	12 0.99 18	86 3.74 68	3 0.08 1	0 0.92 17	56 0.92 17	8 0.17 3	139 3.92 73	24.5 0.39 7	0.2	0.06	55	390 368	82	
9N/22W-12R 1 S 7-18-63	64	7.5	1103	98 4.89 38	63 5.18 40	62 2.70 21	2 0.05 0	0 4.88 38	298 4.88 38	333 6.93 54	28 0.79 6	16.5 0.26 2	0.6	0.18	32	800 782	504	
9N/34W-9E 1 S 7-17-63	68	7.0	745	42 2.10 29	24 1.97 27	72 3.13 43	3 0.08 1	0 1.61 23	98 1.61 23	97 2.02 28	116 3.27 46	14.5 0.23 3	0.4	0.08	57	475 474	204	
10N/24W-6N 1 S 7-18-63	61	7.7	1802	189 9.43 43	102 8.39 39	98 3.83 18	4 0.10 0	0 5.24 24	320 5.24 24	609 12.68 58	76 2.14 10	106.5 1.71 8	--	0.22	39	1470 1371	892	
10N/34W-19H 1 S 7-18-63	--	7.4	1449	138 6.89 41	70 5.76 35	90 3.91 23	4 0.10 1	0 4.52 27	276 4.52 27	456 9.49 57	83 2.34 14	22.5 0.35 2	0.7	0.25	29	1080 1029	633	
10N/45W-5J 1 S 7-19-63	62	7.2	1414	145 7.24 43	70 5.76 35	82 3.57 21	4 0.10 1	0 4.16 25	254 4.16 25	481 10.01 61	70 1.97 12	24.5 0.39 2	0.7	0.20	28	1100 1030	651	
10N/35W-7F 1 S 7-19-63	64	7.5	1988	236 11.78 48	103 8.47 34	100 4.35 18	4 0.10 0	0 5.00 20	305 5.00 20	777 16.18 66	120 3.38 14	6.1 0.10 0	0.7	0.20	33	1610 1530	1013	
10N/35W-21C 1 S 7-19-63	63	7.5	1684	158 7.88 41	69 5.67 30	126 5.48 29	4 0.10 1	0 5.80 30	354 5.80 30	423 8.81 46	138 3.89 20	42.5 0.68 4	0.4	0.22	38	1200 1173	678	



TABLE E-1

MINERAL ANALYSES OF GROUND WATER 1963  
CENTRAL COASTAL DRAINAGE PROVINCE (T)

State well number	Temp when sampled in °F	pH	Specific conductance (micro mhos at 25°C)	Mineral constituents in parts per million										Mineral constituents in parts per million				
				Calcium Mg	Magnesium	Sodium No	Potassium	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Barium B	Silica SiO <sub>2</sub>	Total Hardness as CaCO <sub>3</sub>		
				SANTA MARIA-HYDRO SUBUNIT T1240										SANTA MARIA-CUYAMA HYDRO UNIT T1200				
				(CONTINUED)														
11N/34W-29P 2 S 10-14-63	64	7.8	1040	83 4.14 33	63 5.18 42	70 3.04 24	2 0.05	0	207 3.39 27	293 6.10 49	66 1.86 15	67* 1.08	0.2	0.13	30	844 776		
11N/35W-18M 1 S 10-14-63	--	8.2	1220	143 7.14 47	52 4.28 28	85 3.70 24	4 0.10 1	0	209 3.43 22	517 10.76 69	48 1.35 9	0*	0.1	0.21	26	1034 978		
11N/35W-28B 1 S 10-14-63	62	8.1	1020	127 6.34 52	38 3.13 25	63 2.74 22	3 0.08 1	0	218 3.57 29	370 7.70 62	37 1.04 8	8.6 0.14 1	0.4	0.19	24	840 778		
11N/35W-33F 1 S 7-19-63	60	7.0	1969	253 12.62 51	90 7.40 30	110 4.78 19	5 0.13 1	0	510 8.36 34	662 13.78 55	93 2.62 11	6.7 0.11	0.7	0.28	36	1585 1002 1507		
11N/36W-13R 1 S 7-18-63	--	7.5	1279	138 6.89 45	55 4.52 30	84 3.65 24	4 0.10 1	0	256 4.20 28	456 9.49 64	42 1.18 8	2.2 0.04	0.4	0.20	39	985 947		

TABLE E-1

MINERAL ANALYSES OF GROUND WATER 1963  
CENTRAL COASTAL DRAINAGE PROVINCE (T)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million								Mineral constituents in parts per million						
				Calcium Mg	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	Ni- trate NO <sub>3</sub>	Fluo- ride F	Bor- on B	Sili- co SiO <sub>2</sub>	IDS Exp. 105°C as Computed CaCO <sub>3</sub>	Total Hardness Exp. 105°C as CaCO <sub>3</sub>	
				SANTA MARIA-CUYAMA HYDRO UNIT T1200														
				CUYAMA VALLEY HYDRO SUBUNIT T12C0														
7N/24W-13C 2 S 4-25-63	59	8.2	1740	232 11.58 48	107 8.80 36	87 3.78 16	0.10	4	0	177 2.90 12	988 20.57 86	14 0.39 2	2.5 0.04	1.3	0.07	8	1608 1531	1020
9N/24W-19F 1 S 4-25-63	61	8.2	1725	238 11.88 50	102 8.39 35	83 3.61 15	0.10	4	0	131 2.15 9	1004 20.90 88	18 0.51 2	8.7 0.14 1	1.6	0.08	17	1603 1541	1014
10N/25W-20H 1 S 5-28-63	62	8.0	1610	237 11.83 50	100 8.22 35	80 3.48 15	0.10	4	0	162 2.66 11	998 20.78 87	14 0.39 2	7.4 0.12 1	0.9	0.10	15	1563 1536	1003
10N/25W-21G 1 S 4-25-63	--	7.9	1930	350 17.47 51	143 11.76 34	115 5.00 15	0.13	5	0	262 4.29 13	1952 28.15 83	23 0.65 2	44. 0.71 2	0.7	0.09	17	2288 2179	1463
10N/25W-22E 1 S 4-25-63	62	8.2	1850	269 13.42 51	111 9.13 35	80 3.48 13	0.10	4	0	174 2.85 11	1074 22.36 86	16 0.45 2	22. 0.35 1	0.8	0.07	16	1764 1678	1128
10N/25W-23E 1 S 4-25-63	71	8.2	1920	228 11.38 44	82 6.74 26	170 7.39 29	0.13	5	0	128 2.10 8	932 19.40 77	131 3.69 15	8.7 0.14 1	0.6	0.39	22	1709 1643	907
10N/26W-4R 1 S 4-25-63	--	8.1	1700	224 11.18 48	90 7.40 32	107 4.65 20	0.10	4	0	134 2.20 10	956 19.90 86	30 0.85 4	5.0 0.08	0.7	0.14	22	1590 1505	930
10N/26W-14C 2 S 4-25-63	63	7.9	1650	238 11.88 49	100 8.22 34	91 3.96 16	0.10	4	0	159 2.61 11	1020 21.24 87	20 0.56 2	5.6 0.09 2	0.8	0.08	18	1642 1576	1006
10N/26W-14C 4 S 4-25-63	62	8.0	1705	259 12.92 53	94 7.73 32	82 3.57 15	0.10	4	0	153 2.51 10	1003 20.88 87	18 0.51 2	11. 0.18 1	0.9	0.05	15	1682 1562	1033

TABLE E-1

MINERAL ANALYSES OF GROUND WATER 1963  
CENTRAL COASTAL DRAINAGE PROVINCE (T)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in		parts per million equivalents per percent				parts per million per million		Mineral constituents in							
				Calcium	Magnesium	Sodium	Potassium	Carbonate	Bicarbonate	Sulfate	Chloride	Nitrate	Fluoride	Barium	Silica	Total Hardness as CaCO <sub>3</sub>			
Date sampled				Ca	Mg	Na	K	CO <sub>3</sub>	HCO <sub>3</sub>	SO <sub>4</sub>	Cl	NO <sub>3</sub>	F	B	SiO <sub>2</sub>	Computed	Total Hardness as CaCO <sub>3</sub>		
				SANTA MARIA-CUYAMA HYDRO UNIT T1200															
				(CONTINUED)															
				T1200															
				CUYAMA VALLEY HYDRO SUBUNIT															
10N/26W-23P 1 S	68	8.0	1950	311	110	100	4	0	149	1163	60	16.	0.4	0.06	18	2004	1229		
5-28-63				15.52	9.05	4.35	0.10		2.44	24.21	1.69	0.26							
				53	31	15			9	85	6	1				1856			

TABLE E-2  
MINERAL ANALYSES OF GROUND WATER 1963  
LOS ANGELES DRAINAGE PROVINCE (U)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million										Mineral constituents in parts per million			
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Chloride Cl	Sulfate SO <sub>4</sub>	Bicarbonate HCO <sub>3</sub>	Carbonate CO <sub>3</sub>	Nitrate NO <sub>3</sub>	Fluoride F	Barium Ba	Silica SiO <sub>2</sub>	I.D.S. Evap 100°C as Computed	Total hardness as CaCO <sub>3</sub>
SANTA CLARA-CALLEGUAS HYDRO UNIT U0300																	
OXNARD PLAIN HYDRO SUBUNIT U03A0																	
OXNARD HYDRO SUBAREA U03A1																	
1N/21W-30A 2 S 7-24-63	70	7.7	1064	93 4.64 40	30 2.47 21	100 4.35 37	6 0.15 1	0	325 5.33 46	253 5.27 45	37 1.04 9	1.0 0.02	0.4	0.74 44	710 725	356	
1N/21W-31A 1 S 6-18-63	--	8.0	1100	120 5.99 47	34 2.80 22	89 3.87 30	4 0.10 1	0	268 4.39 35	341 7.10 57	36 1.02 8	1.2 0.02	0.4	0.65 22	852 780	440	
1N/22W-15B 3 S 12-26-63	--	8.1	1210	108 5.39 37	60 4.93 34	96 4.17 29	4 0.10 1	0	260 4.26 29	434 9.04 61	48 1.35 9	3.6 0.06	0.6	0.73 27	986 910	516	
1N/22W-18E 1 S 6-13-63	--	7.6	1180	126 6.29 46	39 3.21 23	94 4.09 30	5 0.13 1	0	247 4.05 30	403 8.39 61	44 1.24 9	0	0.6	0.75 27	896 861	475	
1N/22W-19H 1 S 4-26-63	64	7.5	13200	826 41.22 23	450 37.00 20	2380 103.48 57	23 0.59	0	128 2.10 1	875 18.22 10	5691 160.49 89	8.7 0.14	0.4	0.96 11	11218 10329	3915	
1N/22W-20E 1 S 8-16-63	68	7.0	21000	1303 65.02 26	508 41.78 17	3300 143.48 57	30 0.77	0	169 2.77 1	1178 24.53 10	7757 218.75 89	0	0.1	1.24 18	16980 14178	5344	
1N/22W-20R 1 S 5- 8-63	66	7.6	9680	1450 72.36 47	542 44.57 29	865 37.61 24	21 0.54	0	159 2.61 2	793 16.51 11	4751 133.98 88	0	0.4	0.70 21	9673 8522	5851	
1N/22W-21L 1 S 5- 7-63	65	7.7	4780	563 28.09 50	189 15.54 28	274 11.91 21	8 0.20	0	183 3.00 5	403 8.39 15	1569 44.25 80	0.6 0.01	0.7	0.46 18	3703 3116	2183	

TABLE E-2  
MINERAL ANALYSES OF GROUND WATER 1963  
LOS ANGELES DRAINAGE PROVINCE (U)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				parts per million equivalents per million percent reagent value				Mineral constituents in parts per million					
				Calcium Ca	Magne- sium Mg	Sodium Na	Potassium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	Ni- trate NO <sub>3</sub>	Fluo- ride F	Boron B	Sili- ca SiO <sub>2</sub>	TDSS and DOC Exp- 102°C Computed	Total Inorga- nics CaCO <sub>3</sub>
SANTA CLARA-CALLEGUAS HYDRO UNIT U0300																	
OXNARD PLAIN HYDRO SUBUNIT U03A0																	
OXNARD HYDRO SUBAREA U03A1 (CONTINUED)																	
1N/22W-21L 2 S 4-26-63	64	11.7	3710	228 11.38 36	0	19.48 61	43 1.10 3	75 2.50 9	0	3.54 13	170 77	748 21.09	6.8 0.11	0.4	0.23	9 1877	569
1N/22W-22C 1 S 6-18-63	--	8.0	1470	138 6.89 46	46 3.78 25	100 4.35 29	4 0.10 1	0	238 3.90 26	384 7.99 54	106 2.99 20	384 10.6	0	0.6	0.73	25 984	534
1N/22W-22R 5 S 2-26-63	--	7.8	1135	124 6.19 47	38 3.13 24	86 3.74 28	5 0.13 1	0	336 5.51 42	283 5.89 45	53 1.49 11	53 1.49	12.4 0.19	0.5	0.20	29 810	466
1N/22W-26D 4 S 2-26-63	--	8.2	1265	--	--	--	--	0	256 4.20	--	--	57 1.61	--	--	--	--	515

TABLE E-2  
MINERAL ANALYSES OF GROUND WATER 1963  
LOS ANGELES DRAINAGE PROVINCE (U)

State well number	Temp. when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				Mineral constituents in parts per million									
				Calcium M.g.	Magnesium M.g.	Sodium Na.	Potassium K.	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	Total hardness as CaCO <sub>3</sub>	
SANTA CLARA-CALLEGUAS HYDRO UNIT U0300																	
SANTA PAULA HYDRO SUBUNIT U03B0																	
SANTA PAULA HYDRO SUBAREA U03B1																	
3N/21W-9R 3 S 1-16-63	--	7.6	1148	129 6.44 50	31 2.55 20	86 3.74 29	3 0.08 1	0	295 4.84 38	329 6.85 54	38 1.07 8	0.5 0.01	0.7	0.42	37	820 800	450
3N/21W-16K 1 S 9-29-63	--	7.7	1530	190 9.48 50	52 4.28 22	120 5.22 27	4 0.10 1	0	288 4.72 24	593 12.35 64	82 2.31 12	3.5 0.06	0.8	0.80	25	1310 1213	689
3N/22W-36H 1 S 8-1-63	--	7.5	1800	267 13.32 62	22 1.81 8	145 6.30 29	3 0.08	0	360 5.90 28	614 12.78 61	74 2.09 10	15. 0.24 1	0.4	0.78	27	1428 1345	757

TABLE E-2  
MINERAL ANALYSES OF GROUND WATER 1963  
LOS ANGELES DRAINAGE PROVINCE (U)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million										Mineral constituents in parts per million				
				Calcium Co	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	Ni- trate NO <sub>3</sub>	Fluo- ride F	Boron B	Sili- co SiO <sub>2</sub>	Total Hardness as CaCO <sub>3</sub>		
UPPER SANTA CLARA R HYDRO SUBUNITU03E0														SANTA CLARA-CALLEGUAS HYDRO UNIT U0300				
EASTERN HYDRO SUBAREA														U03E1				
4N/16W-28A 1 S 1-11-63	--	7.7	1635	198 9.88 50	74 6.09 31	85 3.70 19	3 0.08	0	442 7.24 37	459 9.56 49	74 2.09 11	45.4 0.73 4	0.9	0.10	26	1244 1182	799	
4N/16W-33L 1 S 8-13-63	76	7.9	1260	77 3.84 28	41 3.37 24	153 6.65 48	4 0.10 1	0	220 3.61 26	471 9.81 69	23 0.65 5	3.3 0.05	0.2	0.20	16	920 897	361	
4N/17W-4A 1 S 1-11-63	--	8.2	686	75 3.74 50	13 1.07 14	58 2.52 34	3 0.08 1	0	250 4.10 56	125 2.60 36	20 0.56 8	0.6 0.01	0.3	.00	22	446 440	241	
5N/17W-34P 1 S 1-11-63	--	7.5	327	34 1.70 52	6 0.49 15	24 1.04 32	1 0.03 1	0	134 2.20 70	10 0.21 7	18 0.51 16	14.4 0.23 7	0.7	.00	42	222 216	110	
6N/16W-34B 1 S 8-27-63	--	7.5	1475	127 6.34 39	47 3.87 24	135 5.87 36	4 0.10 1	0	368 6.03 37	310 6.45 40	133 3.75 23	0.5 0.01	0.2	1.20	25	1010 964	511	
8N/20W-19M 1 S 7-5-63	--	7.8	833	56 2.79 32	9 0.74 8	120 5.22 59	2 0.05 1	0	261 4.28 48	199 4.14 47	13 0.37 4	2.6 0.04	1.3	2.00	25	555 558	177	

TABLE E-2  
MINERAL ANALYSES OF GROUND WATER 1963  
LOS ANGELES DRAINAGE PROVINCE (U)

Stote well number	Temp. when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million equivalents per percent reactance value							Mineral constituents in parts per million						
				Calcium Co	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	I.D.S. Evap. 105°C Computed	Total hardness as CaCO <sub>3</sub>
SANTA CLARA-CALLEGUAS HYDRO UNIT U0300																	
CALLEGUAS-CONEJO HYDRO SUBUNIT U03F0																	
EAST LAS POSAS HYDRO SUBAREA U03F2																	
3N/19W-29E 3 S 7-10-63	--	7.3	314	26 1.30 42	7 0.58 19 U03F4	27 1.17 38	1 0.03 1	0	117 1.92 64	2 0.04 1	22 0.62 21	26. 0.42 14	0.4	0.08	73	230 242	94
CONEJO VALLEY HYDRO SUBAREA																	
1N/20W-15R 3 S 8-1-63	68	7.3	780	67 3.34 41	30 2.47 30 U03F8	54 2.35 29	0	0	296 4.85 61	70 1.46 18	50 1.41 18	16. 0.26 3	0.2	0.07	26	472 459	291
THOUSAND OAKS HYDRO SUBAREA																	
1N/19W-2L 1 S 10-2-63	--	7.6	1916	182 9.08 38	104 8.55 36	145 6.30 26	6 0.15 1	0	571 9.36 39	600 12.49 52	66 1.86 8	11. 0.18 1	0.6	0.29	55	1532 1451	882
1N/19W-14C 3 S 10-24-63	72	7.2	1686	120 5.99 29	110 9.05 44	124 5.39 26	5 0.13 1	0	361 5.92 29	518 10.78 53	134 3.78 18	1.7 0.03	0.5	0.15	53	1210 1244	753



TABLE E-2  
MINERAL ANALYSES OF GROUND WATER 1963  
LOS ANGELES DRAINAGE PROVINCE (U)

State well number	Date sampled	Temp. when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in				parts per million equivalents per percent				mineral constituents in parts per million						
					Calcium Mg	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	I.D.S. Evap. (0.05°C) as CaCO <sub>3</sub>	Total Hardness as CaCO <sub>3</sub>	
L A SAN GABRIEL RIVER HYDRO UNIT U0500																			
COASTAL PL OF LA CO HYDRO SUBUNITU05A0 U05A2																			
3S/13W-29G 3 S 10-23-63		68	7.8	1180	98 4.89 41	30 2.47 21	102 4.43 37	5 0.13 1	0	198 3.25 27	111 2.31 19	227 6.40 54	0	0	0.2	0.30	20	740 691	368
3S/13W-31M 1 S 10-24-63		70	8.1	510	47 2.35 44	11 0.90 17	45 1.96 37	3 0.08 2	0	226 3.70 71	43 0.90 17	21 0.59 11	0	0	0.2	0.18	23	292 304	163
3S/14W-22R 2 S 10-28-63		69	7.6	1400	111 5.54 37	56 4.61 31	107 4.65 31	6 0.15 1	0	253 4.15 28	47 0.98 7	340 9.59 65	0	0	0.2	0.35	16	1044 808	508
3S/14W-25K 4 S 10-25-63		70	7.8	710	70 3.49 48	17 1.40 19	53 2.30 32	3 0.08 1	0	226 3.70 51	59 1.23 17	81 2.28 32	0	0	0.2	0.14	22	434 416	245
3S/14W-27C 1 S 10-28-63		68	7.7	1040	96 4.79 44	27 2.22 20	86 3.74 34	5 0.13 1	0	221 3.62 34	56 1.17 11	208 5.87 55	0	0	0.2	0.18	19	738 606	351
3S/14W-30H 2 S 10-23-63		72	8.4	1040	74 3.69 35	33 2.71 26	90 3.91 37	6 0.15 1	15 0.50 5	202 3.31 32	38 0.79 8	201 5.67 55	0	0	0.2	0.20	22	658 579	320
4S/14W-90 1 S 10-28-63		73	7.7	880	33 1.65 18	12 0.99 11	148 6.44 70	5 0.13 1	0	290 4.75 53	2 0.04 47	149 4.20 47	0	0	0.2	0.55	24	500 516	132
4S/14W-16L 2 S 10-28-63		74	8.3	760	40 2.00 25	12 0.99 13	110 4.78 61	5 0.13 2	4 0.13 2	281 4.61 59	1 0.02 39	106 2.99 39	0	0	0.2	0.30	29	452 446	150

TABLE E-2  
MINERAL ANALYSES OF GROUND WATER 1963  
LOS ANGELES DRAINAGE PROVINCE (U)

State well number	Temp when sampled in °F	pH	Specific conductance (micro mhos at 25°C)	Mineral constituents in				ports per million equivalents per million percent reactance value				Mineral constituents in parts per million					
				Calcium Co	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silico SiO <sub>2</sub>	Total hardness CaCO <sub>3</sub>	
COASTAL PL OF LA CO HYDRO SUBUNITU05AC																	
CENTRAL HYDRO SUBAREA																	
U05A5																	
L A SAN GABRIEL RIVER HYDRO UNIT U0500																	
2S/13W-100 5 S 8-14-63	64	7.9	730	50 2.50 32	37 3.04 39	50 2.17 28	4 0.10 1	0	256 4.20 53	109 2.27 29	50 1.41 18	3.7 0.06 1	0.2	0.20	19	454 449	277
2S/13W-12C 1 S 3-1-63	70	8.0	610	67 3.34 51	12 0.99 15	50 2.17 33	3 0.08 1	0	235 3.85 60	84 1.75 27	28 0.79 12	0	0.6	0.18	22	384 382	217
2S/13W-28H 1 S 10-11-63	--	7.7	600	69 3.44 50	16 1.32 19	45 1.96 29	4 0.10 1	0	221 3.62 54	93 1.94 29	36 1.02 15	7.3 0.12 2	0.2	0.05	19	436 398	238
3S/13W-20H 3 S 11-20-63	72	8.1	470	34 1.70 32	19 1.56 29	46 2.00 37	4 0.10 2	0	232 3.80 71	46 0.96 18	22 0.62 12	0	0.2	0.15	19	314 304	163
4S/12W-10A 2 S 11-21-63	--	8.3	390	42 2.10 48	11 0.90 21	30 1.30 30	3 0.08 2	2 0.07 2	211 3.46 80	22 0.46 11	11 0.31 7	0	0.4	0.18	11	236 236	150
4S/12W-10G 1 S 11-21-63	69	8.3	450	48 2.40 53	6 0.49 11	36 1.57 35	3 0.08 2	1 0.03 1	211 3.46 75	36 0.75 16	13 0.37 8	0	0.2	0.18	13	242 260	145

TABLE E-2  
MINERAL ANALYSES OF GROUND WATER 1963  
LOS ANGELES DRAINAGE PROVINCE (U)

State well number	Date sampled	Temp when sampled in F	pH	Specific conductance (micro mhos at 25°C)	Mineral constituents in parts per million					Mineral constituents in parts per million									
					Calcium Co	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	Total Evap Residue at 100°C CoCO <sub>3</sub>		
L A SAN GABRIEL RIVER HYDRO UNIT U0500																			
SAN GABRIEL VALLEY HYDRO SUBUNIT U0500																			
MAIN SAN GABRIEL HYDRO SUBAREA U050D1																			
1S/10W-7A 6 S 7-26-63		67	7.7	750	106 5.29 71	17 1.40 19	16 0.70 9	4 0.10 1	0	0	214 3.51 47	42 0.87 12	101 2.85 38	11. 0.18 2	0.2	0.05	12	514 414	335
1S/10W-19N 1 S 10-10-63		--	7.6	940	106 5.29 51	24 1.97 19	70 3.04 29	6 0.15 1	0	0	226 3.70 36	163 3.39 33	78 2.20 21	59. 0.95 9	0.1	0.05	11	726 628	363
1S/11W-10F 1 S 10-11-63		62	7.5	370	51 2.54 61	11 0.90 22	15 0.65 16	2 0.05 1	0	0	198 3.25 79	19 0.40 10	8 0.23 6	14. 0.23 6	0.6	0.08	17	240 235	172
1S/11W-14M 1 S 10-11-63		--	7.8	580	85 4.24 67	18 1.48 23	12 0.52 8	4 0.10 2	0	0	210 3.44 56	62 1.29 21	31 0.87 14	33. 0.53 9	0.1	0.03	11	418 359	286
1S/11W-26K 1 S 10-11-63		66	7.7	540	77 3.84 65	10 0.82 14	26 1.13 19	4 0.10 2	0	0	216 3.54 60	65 1.35 23	28 0.79 13	16. 0.26 4	0.2	0.0	16	374 348	233
1S/11W-33N 7 S 6-25-63		--	7.6	855	111 5.54 59	30 2.47 26	29 1.26 13	5 0.13 1	0	0	253 4.15 44	171 3.56 38	53 1.49 16	11. 0.18 2	0.2	0.11	13	632 548	401
1S/11W-33P 1 S 10-11-63		--	7.9	1050	157 7.83 64	22 1.81 15	55 2.39 20	6 0.15 1	0	0	254 4.16 34	260 5.41 45	71 2.00 16	35. 0.56 5	0.2	0.03	14	814 745	482

TABLE E-3  
MINERAL ANALYSES OF GROUND WATER 1963  
LAHONTAN DRAINAGE PROVINCE (W)

State well number	Temp when sampled in °F	pH	Specific conductance (micro mhos at 25°C)	Mineral constituents in parts per million				Mineral constituents in parts per million				Total hardness as CaCO <sub>3</sub>					
				Calcium Co	Magnesium Mg	Sodium No	Potassium K	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>		Fluoride F	Barium B	Silica SiO <sub>2</sub>	Exp. 103°C Hardness as CaCO <sub>3</sub>	Exp. 103°C Hardness as CaCO <sub>3</sub>
ANTELOPE HYDRO SUBUNIT W2660																	
ANTELOPE HYDRO SUBAREA W26A5																	
7N/11W-23N 1 S 7-19-63	--	8.1	240	24 1.20	4 0.33	19 0.83	2 0.05	0	120 1.97	12 0.25	3 0.08	1.8 0.03	0.2	0.06	2.0	14.2	77
7N/12W-34E 1 S 7-30-63	73	8.1	270	50 22 1.10	14 0 1.65	34 38 1.65	2 0.03	0	85 2.10	11 0.40	3 0.14	1 0.03	0.2	0.08	21	15.8	55
7N/13W-7J 1 S 5-27-63	--	7.5	700	40 66 3.29	26 2.14	51 2.22	2 0.05	0	79 5.10	15 0.75	5 1.24	1 0.47	0.1	0.20	21	43.4	272
8N/11W-21R 1 S 7-30-63	--	8.9	380	43 4 0.20	28 1	29 89	1	10 0.40	67 2.90	10 0.31	16 0.28	6 0	1.6	0.78	16	42.8	14
8N/12W-9B 1 S 7-31-63	--	8.2	280	27 15 0.75	3 1	68 43	1 0.03	0	61 1.66	17 0.46	11 0.31	10 0.27	0.2	0.08	17	23.6	42
8N/13W-27P 2 S 6-4-63	72	7.8	630	29 38 1.90	24 19	47 71	0.03	0	52 3.39	16 1.04	29 1.89	3 0.18	0.4	0.63	26	41.2	173
8N/14W-11G 1 S 7-31-63	74	8.1	400	43 34 1.70	10 5 0.41	45 41	2	0	71 2.80	16 0.65	9 0.37	4 0.15	0.1	0.53	27	38.6	106
9N/13W-23E 1 S 6-6-63	--	8.1	390	43 34 1.70	10 5 0.41	46 42	1	0	62 2.38	26 1.00	10 0.39	2 0.08	0.2	0.10	17	25.0	106

TABLE E-3  
MINERAL ANALYSES OF GROUND WATER 1963  
LAHONTAN DRAINAGE PROVINCE (W)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos of 25°C)	Mineral constituents in				parts per million equivalents per million			parts per million				
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Barium B	Silica SiO <sub>2</sub>
MOJAVE HYDRO UNIT															
MIDDLE MOJAVE HYDRO SUBUNIT															
W28C0															
W2800															
9N/ 2W- 1F 1 S	65	7.7	670	45	16	78	2	0	199	103	48	0.6	0.27	22	404
7-18-63				2.25	1.32	3.39	0.05		3.26	2.14	1.35				179
				32	19	48	1		48	31	20				417

TABLE E-3  
MINERAL ANALYSES OF GROUND WATER 1963  
LAHONTAN DRAINAGE PROVINCE (W)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				parts per million equivalents per million percent reactance value				Mineral constituents in parts per million			
				Calcium Co	Magne- sium Mg	Sodium No	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	Ni- trate NO <sub>3</sub>	Fluo- ride F	Baron B	Sili- ca SiO <sub>2</sub>
MOJAVE HYDRO UNIT															
LOWER MOJAVE HYDRO SUBUNIT								W28E0							
9N/ 1E- 1M 1 S 7-17-63	--	7.7	488	41 2.05	--	--	--	0	198 3.25	--	28 0.79	--	20	103	
9N/ 1E-15N 2 S 7-16-63	--	8.1	940	73 3.64 35	15 1.23 12	125 5.44 53	2 0.05	0	271 4.44 42	171 3.56 34	87 2.45 23	0.4	25	608 244	
9N/ 2E- 8N 2 S 7-16-63	--	7.8	392	33 1.65 41	6 0.49 12	43 1.87 46	1 0.03 1	0	171 2.80 69	30 0.62 15	21 0.59 15	0.6	27	235 107	
10N/ 2E-31R 1 S 7-17-63	--	7.9	458	29 1.45	--	--	--	0	170 2.79	--	30 0.85	--	25	73	
9N/ 1W- 4G 1 S 7-18-63	--	8.2	600	54 2.69 41	9 0.74 11	68 2.96 46	4 0.10 2	0	207 3.39 54	85 1.77 28	37 1.04 17	0.4	21	360 172	
9N/ 1W-10D 2 S 7-17-63	65	7.8	740	64 3.19 42	15 1.23 16	70 3.04 40	3 0.08 1	0	227 3.72 49	112 2.33 31	51 1.44 19	0.7	26	484 221	
9N/ 1W-13H 2 S 7-16-63	63	7.7	758	51 2.54 33	14 1.15 15	91 3.96 51	3 0.08 1	0	212 3.47 46	108 2.25 30	64 1.80 24	0.7	22	494 185	
10N/ 1W-33E 1 S 7-18-63	--	8.1	820	63 3.14 35	13 1.07 12	110 4.78 53	3 0.08 1	0	284 4.65 52	134 2.79 31	52 1.47 16	0.4	18	538 211	

TABLE E-4  
MINERAL ANALYSES OF GROUND WATER 1963  
COLORADO RIVER BASIN DRAINAGE PROVINCE (K)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in				parts per million			parts per million				Mineral constituents in parts per million			
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Barium Ba	Silica SiO <sub>2</sub>	Total Hardness as CaCO <sub>3</sub>	I.D.S. Evap 180°C Evap 105°C Computed CaCO <sub>3</sub>	
1N/ 9E-31A 1 S 5-28-63	--	8.2	388	--	--	--	--	--	--	104 1.70	--	21 0.59	--	--	--	--	--	78
TWENTYNINE PALMS HYDRO SUBUNIT X09A0				DALE HYDRO UNIT X0900														

TABLE E-4

MINERAL ANALYSES OF GROUND WATER 1963  
 COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				parts per million equivalents per million reactance value				Mineral constituents in parts per million					
				Calcium Co	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	Total Dissolved Solids (TDS) Computed	Total Dissolved Solids (TDS) Reported
COACHELLA HYDRO SUBUNIT																	
INDIO HYDRO SUBAREA																	
X1900																	
X19D0																	
X19D7																	
5S/ 7E-16K 1 S 5- 1-63	--	8.2	300	40 2.00 63	1 0.08 3	1 1.00 31	23 0.10 3	4 0.10 3	0 0	149 2.44 78	20 0.42 14	9 0.25 8	0	0.05	12	190 183	104
5S/ 7E-22K 1 S 4-30-63	--	7.9	930	129 6.44 61	23 1.89 18	23 2.17 20	50 0.13 1	5 0.13 1	0 0	181 2.97 28	242 5.04 48	84 2.37 23	7.8 0.13 1	0.00	17	772 647	417
5S/ 7E-33C 1 S 5- 1-63	72	8.1	560	64 3.19 57	5 0.41 7	5 1.91 34	44 0.13 2	5 0.13 2	0 0	126 2.07 37	97 2.02 36	41 1.16 21	22.0 0.35 6	0.02	14	382 354	180
5S/ 8E-31D 1 S 4-30-63	--	8.2	780	100 4.99 63	7 0.58 7	7 2.17 28	50 0.15 2	6 0.15 2	0 0	143 2.34 30	155 3.23 42	67 1.89 25	14.0 0.23 3	0.07	14	474 484	279
5S/ 8E-33N 1 S 4-30-63	--	8.2	580	31 1.55 26	2 0.16 3	2 4.22 70	97 0.13 2	5 0.13 2	0 0	140 2.29 40	128 2.66 47	27 0.76 13	0	0.34	13	368 376	86
6S/ 8E-7P 1 S 4-30-63	--	8.2	525	65 3.24 62	3 0.25 5	3 1.61 31	37 0.10 2	4 0.10 2	0 0	119 1.95 40	64 1.33 27	53 1.49 31	4.3 0.07 1	0.05	14	332 303	175
6S/ 8E-10A 4 S 4-30-63	75	8.2	470	124 1.20 25	0 0 25	0 3.48 74	80 0.05 1	2 0.05 1	0 0	94 1.54 35	82 1.71 38	43 1.21 27	0	0.29	12	296 293	60
6S/ 8E-27H 1 S 4-30-63	--	8.6	227	13 0.65 28	0 0 28	0 1.61 70	37 0.05 2	2 0.05 2	2 0.07 3	83 1.36 60	26 0.54 24	10 0.28 12	0	0.07	10	150 142	33



TABLE E-4  
MINERAL ANALYSES OF GROUND WATER 1963  
COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

State well number	Temp when sampled in °F	pH	Specific conductance (micro mhos at 25°C)	Mineral constituents in parts per million						Mineral constituents in parts per million								
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Bicarbonate CO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Barium Ba	Silica SiO <sub>2</sub>	Total Dissolved Solids as CaCO <sub>3</sub>			
COACHELLA HYDRO SUBUNIT INDIO HYDRO SUBAREA													X1900					
				X1900						X1900								
				X19D7 (CONTINUED)						X1900								
6S/ 9E-30C 1 S 4-30-63	--	8.3	275	6 0.30 11	1 0.08 3	52 2.26 85	0.03 0.03 1	1 0.07 3	2 0.07 3	82 1.34 53	43 0.90 36	7 0.20 8	0 0	2.0 0.2	0.07 0.00	9 8	160 163	19
7S/ 8E-22M 1 S 4-30-63	--	7.1	2000	150 7.49 40	6 0.49 3	250 10.87 57	4 0.10 1	0 0	18 0.30 2	344 7.16 38	399 11.25 60	399 0.14 1	8.7 0.14	0.2 0.00	0.00	8 1179	1284 399	399
7S/ 9E-16K 1 S 4-30-63	--	8.6	725	4 0.20 3	2 0.16 2	160 6.96 95	1 0.03 3	6 0.20 3	180 2.95 42	110 2.29 33	54 1.52 22	0 0	5.0 0.29	10 0.29	10 442	442 441	18	18

TABLE E-5  
MINERAL ANALYSES OF GROUND WATER 1963  
SANTA ANA DRAINAGE PROVINCE (Y)

State well number	Temp. when sampled in °F	pH	Specific conductance (micro mhos at 25°C)	Mineral constituents in				parts per million equivalents per percent				Mineral constituents in parts per million						
				Calcium Mg	Magne- sium Mg	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	Ni- trate NO <sub>3</sub>	Fluo- ride F	Bor- on B	Sili- co SiO <sub>2</sub>	IDS Exp. 105°C Exp. 105°C Computed	Total hardness as CaCO <sub>3</sub>	
SANTA ANA RIVER HYDRO UNIT Y0100																		
LOWER SANTA ANA RIV HYDRO SUBUNITY01A0 EAST COSTAL PLAIN HYDRO SUBAREA Y01A1																		
5S/11W-21M 3 S 3-19-63	--	8.2	363	25 1.25	2 0.16	53 2.30	3 0.08	--	--	161 2.64	32 0.67	12 0.34	--	--	0.06	--	210	71
5S/11W-21N 2 S 3-19-63	--	7.6	598	--	--	--	--	--	--	193 3.16	--	18 0.51	--	--	--	--	--	301
5S/11W-25R 2 S 3-13-63	--	7.6	726	91 4.54	18 1.48	35 1.52	4 0.10	--	--	294 4.82	89 1.85	33 0.93	--	--	0.01	--	420	301
5S/11W-28H 2 S 10- 3-63	--	8.4	368	9 0.45 13	1 0.08 2	70 3.04 84	1 0.03 1	5 0.17 5	5 78	174 2.85 78	12 0.25 7	14 0.39 11	0.	0.7	0.08	13	244	27
5S/11W-28K 1 S 3-15-63	--	8.2	521	--	--	--	--	--	--	306 5.02	--	19 0.54	--	--	--	--	--	211
5S/11W-29C 1 S 3-15-63	--	8.5	339	--	--	--	--	8 0.27	2.56	156 2.56	--	17 0.48	--	--	--	--	--	--
5S/11W-33H 1 S 3-15-63	--	8.4	351	--	--	--	--	7 0.23	188 3.08	--	--	13 0.37	--	--	--	--	--	--

TABLE E-5  
MINERAL ANALYSES OF GROUND WATER 1963  
SANTA ANA DRAINAGE PROVINCE (Y)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in				parts per million equivalents per million reagent value				Mineral constituents in parts per million					
				Calcium M g	Magne sium M g	Sodium No	Potas sium K	Carbon ate CO <sub>3</sub>	Bicar bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo ride Cl	Ni trate NO <sub>3</sub>	Fluo ride F	Baron B	Sili co S i O <sub>2</sub>	TDS Extrap. 105°C Computed	Total Dissolved Solids CoCO <sub>3</sub>
SANTA ANA RIVER HYDRO UNIT Y0100																	
LOWER SANTA ANA RIV HYDRO SUBUNITY010A EAST COASTAL PLAIN HYDRO SUBAREA Y01A1 (CONTINUED)																	
5S/11W-34F 3 S 3-15-63	--	8.4	624	--	--	--	--	0.27	8	380	6.23	--	18	--	--	--	--
5S/11W-36B 2 S 3-13-63	--	7.8	535	--	--	--	--	0	0	218	3.57	--	25	--	--	--	--
5S/11W-36P 1 S 3-4-63	--	7.7	1666	199	34	64	5	--	221	77	365	77	365	5.0	0.05	--	637
				9.93	2.80	2.78	0.13	3.62	1.60	10.29	0.08	10	66	1	1021	858	
				63	18	18	1	23	10								
5S/12W-12C 1 S 3-19-63	--	8.6	313	--	--	--	--	0.27	8	140	2.29	--	13	--	--	--	--
6S/10W-5C 1 S 6-28-63	67	7.8	600	52	19	43	2	0	235	77	28	77	28	0	0.2	0.07	408
				2.59	1.56	1.87	0.05	3.85	1.60	0.79	13	26	13				354
				43	26	31	1	62	26								
6S/10W-6B 2 S 3-6-63	--	7.9	627	--	--	--	--	--	218	57	1.61	--	57	--	--	--	--
									3.57								
6S/10W-6H 1 S 9-11-63	--	7.5	813	83	19	47	3	--	209	31	135	31	135	7.0	0.2	0.04	285
				4.14	1.56	2.04	0.08	3.43	0.65	3.81	0.11	8	48	1	464	443	
				53	20	26	1	43	8								

TABLE E-5  
MINERAL ANALYSES OF GROUND WATER 1963  
SANTA ANA DRAINAGE PROVINCE (Y)

State well number	Temp when sampled in °F	pH	Specific conductance (micro mhos at 25°C)	Mineral constituents in parts per million				parts per million equivalents per million reactivity value				Mineral constituents in parts per million					
				Calcium Ca	Magne- sium Mg	Sodium Na	Potass- ium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	Ni- trate NO <sub>3</sub>	Fluo- ride F	Boron B	Sili- co SiO <sub>2</sub>	Total Hardness as CaCO <sub>3</sub>	
LOWER SANTA ANA RIV HYDRO SUBUNITYO1A0																	
EAST COASTAL PLAIN HYDRO SUBAREA Y01A1 (CONTINUED)																	
SANTA ANA RIVER HYDRO UNIT																	
Y0100																	
6S/10W-7J 4 S	68	7.4	4700	460	62	450	4	0	143	0	1596	0	0.2	0.28	14	4260	1404
4-2-63				22.95	5.10	19.57	0.10	2.34	5	45.01	95					2657	
6S/11W-1N 2 S	--	8.1	508	--	--	--	--	--	300	--	16	--	--	--	--	--	--
3-4-63									4.92		0.45						
6S/11W-3R 2 S	--	8.0	1783	--	--	--	--	--	331	--	406	--	--	--	--	--	--
3-15-63									5.43		11.45						
SANTA ANA NARROWS HYDRO SUBAREA Y01A3																	
3S/8W-25J 1 S	--	7.9	1585	166	45	130	6	0	378	367	141		0.7	0.35	23	1130	599
8-22-63				8.28	3.70	5.65	0.15	6.20	35	7.64	3.98					1066	
											22						
3S/8W-33K 1 S	--	7.5	1558	142	65	120	3	0	349	431	108		0.7	0.15	22	1150	622
8-22-63				7.09	5.35	5.22	0.08	5.72	8.97	3.05	3.05					1068	
											17						
3S/9W-33H 1 S	--	7.6	901	76	19	91	3	0	261	119	86		0.7	0.17	20	575	268
8-22-63				3.79	1.56	3.96	0.08	4.28	4.46	2.48	2.43					544	
											26						
3S/9W-33K 1 S	64	7.7	1088	114	23	88	5	0	203	257	94		0.6	0.15	24	730	379
8-21-63				5.69	1.89	3.83	0.13	3.33	29	5.35	2.65					714	
											23						
3S/9W-350 1 S	--	7.7	1206	117	29	104	6	0	205	318	100		0.7	0.15	20	830	411
8-22-63				5.84	2.38	4.52	0.15	3.36	26	6.62	2.82					802	
											51						

TABLE E-5  
MINERAL ANALYSES OF GROUND WATER 1963  
SANTA ANA DRAINAGE PROVINCE (Y)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				Mineral constituents in parts per million				Total hardness as CaCO <sub>3</sub>					
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl		Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	I.O.S. Exp. I.O.S. Computed
MIDDLE SANTA ANA RIV HYDR SUBUNITY01B0 CHINO HYDRO SUBAREA Y01B1																	
Y0100																	
1S/ 6W-29R 1 S 3-22-63	--	7.5	430	53 2.64 62	6 0.49 11	25 1.09 26	2 0.05 1	0	189 3.10 74	6 0.12 3	23 0.65 16	20. 0.32 8	0.3	0.00	30	269 258	157
2S/ 7W-10M 1 S 3-13-63	--	7.4	923	111 5.54 58	32 2.63 27	31 1.35 14	2 0.05 1	0	305 5.00 53	41 0.85 9	78 2.20 23	91.2 1.47 15	0.3	0.03	--	540 536	409
2S/ 7W-15A 1 S 10-23-63	--	8.2	337	42 2.10 56	8 0.66 18	22 0.96 25	2 0.05 1	12 0.40 11	178 2.92 77	12 0.25 7	6 0.17 4	3.5 0.06 2	0.2	0.04	--	209 195	138
2S/ 7W-21L 1 S 3-13-63	--	7.9	799	100 4.99 57	26 2.14 25	35 1.52 17	2 0.05 1	0	320 5.24 61	61 1.27 15	33 0.93 11	71.2 1.15 13	0.3	0.02	--	522 486	357
2S/ 7W-22K 1 S 3-13-63	--	7.7	1089	136 6.79 56	38 3.13 26	47 2.04 17	3 0.08 1	0	525 8.60 71	42 0.87 7	61 1.72 14	55.2 0.89 7	0.3	0.02	--	682 641	496
2S/ 7W-23E 1 S 3-13-63	--	8.0	803	103 5.14 58	27 2.22 25	32 1.39 16	2 0.05 1	0	349 5.72 66	41 0.85 10	41 1.16 13	54.4 0.88 10	0.3	0.02	--	504 472	368
2S/ 7W-27A 1 S 3-13-63	--	7.4	998	112 5.59 51	33 2.71 25	59 2.57 24	2 0.05	0	510 8.36 75	44 0.92 8	47 1.33 12	38.0 0.61 5	0.3	0.04	--	582 586	415

TABLE E-5  
MINERAL ANALYSES OF GROUND WATER 1963  
SANTA ANA DRAINAGE PROVINCE (Y)

State well number	Temp. when sampled in °F	pH	Specific conductance (micro-mhos of 25°C)	Mineral constituents in parts per million				Mineral constituents in parts per million				Total Dissolved Solids (TDS) Computed					
				Calcium Co	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl		Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	
UPPER SANTA ANA HYDRO SUBUNIT																	
BUNKER HILL HYDRO SUBAREA																	
YO1E0													YO100				
YO1E2																	
1S/ 3W-9E 2 S 3-25-63	--	8.0	348	41 2.05 57	7 0.58 16	20 0.87 24	3 0.08 2	0	163 2.67 78	8 0.17 5	18 0.51 15	4.0 0.06 2	0.3	0.32	30	215 212	132
1S/ 3W-16A 1 S 4- 3-63	--	7.5	287	32 1.60 54	6 0.49 16	19 0.83 28	2 0.05 2	0	139 2.28 77	21 0.44 15	7 0.20 7	4.0 0.06 2	0.4	0.02	28	180 188	105
1S/ 3W-17C 3 S 3-25-63	--	8.0	351	43 2.15 59	10 0.82 23	14 0.61 17	2 0.05 1	0	132 2.16 58	33 0.69 19	9 0.25 7	37.0 0.60 16	0.5	0.00	23	220 236	149
1S/ 4W-13F 2 S 5-31-63	--	7.9	412	53 2.64 62	9 0.74 17	19 0.83 19	3 0.08 2	0	188 3.08 73	24 0.50 12	16 0.45 11	11.0 0.18 4	0.4	0.62	20	260 248	169
1S/ 4W-13G 2 S 5-31-63	--	8.1	410	54 2.69 63	9 0.74 17	17 0.74 17	3 0.08 2	0	190 3.11 75	23 0.48 12	15 0.42 10	10.0 0.16 4	0.4	0.36	20	270 245	172
1S/ 4W-13L 1 S 5-31-63	--	7.8	360	45 2.25 60	9 0.74 20	17 0.74 20	2 0.05 1	0	156 2.56 70	28 0.58 16	7 0.20 5	20.0 0.32 9	0.5	0.03	18	230 223	150
1N/ 4W-29F 1 S 3-22-63	--	7.7	1140	171 8.53 65	38 3.13 24	32 1.39 11	5 0.13 1	0	303 4.97 37	346 7.20 54	24 0.68 5	26.0 0.42 3	0.6	1.00	24	900 817	583

TABLE E-6  
MINERAL ANALYSES OF GROUND WATER 1963  
SAN DIEGO DRAINAGE PROVINCE (Z)

State well number	Temp. when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million					parts per million equivalents per percent reactance value					Mineral constituents in parts per million				
				Calcium Mg	Magne- sium	Sodium Na	Potas- sium K	Carbon- ate CO <sub>3</sub>	Bicar- bonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chlo- ride Cl	Ni- trate NO <sub>3</sub>	Fluo- ride F	Boron B	Sili- ca SiO <sub>2</sub>	I.O.S. Exp. 105°C	Total hardness as CaCO <sub>3</sub>	
BONSALL HYDRO SUBUNIT																		
MISSION HYDRO SUBAREA																		
Z03A0																		
Z03A1																		
SAN LUIS REY HYDRO UNIT																		
Z0300																		
11S/ 4W-5K 1 S 9-27-63	--	7.4	3175	308 15.37 47	123 10.12 31	160 6.96 21	10 0.26 1	0	239 3.92 12	134 2.79 9	880 24.82 79	5.0 0.08	0.5	0.10	26	2080 1764	1276	
11S/ 4W-8K 1 S 9-26-63	--	7.3	1499	160 7.98 52	19 1.56 10	128 5.57 37	4 0.10 1	0	249 4.08 27	123 2.56 17	280 7.90 53	30.6 0.48 3	0.4	0.52	36	1080 903	477	
11S/ 4W-8N 2 S 10-24-63	--	7.7	2360	210 10.48 41	23 1.89 7	295 12.83 51	3 0.08	0	322 5.28 21	173 3.60 14	575 16.22 65	0.6 0.01	0.2	0.30	21	1582 1459	619	
11S/ 4W-18L 4 S 9-27-63	--	7.4	1280	108 5.39 39	43 3.54 26	105 4.57 33	6 0.15 1	0	293 4.80 36	157 3.27 24	188 5.30 40	0.5 0.01	0.5	0.11	30	900 782	447	
11S/ 5W-13L 1 S 1-8-63	--	7.5	3156	287 14.32 43	105 8.64 26	240 10.44 31	9 0.23 1	0	325 5.33 16	601 12.51 37	560 15.79 47	0.7 0.01	0.6	0.13	34	2162 1997	1149	

TABLE E-6  
MINERAL ANALYSES OF GROUND WATER 1963  
SAN DIEGO DRAINAGE PROVINCE (Z)

State well number	Temp when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million							Mineral constituents in parts per million						
				Calcium Co	Magnesium Mg	Sodium No	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Boron B	Silica SiO <sub>2</sub>	I.D.S. or Evap. (D.S.C. Computed)	Total hardness CaCO <sub>3</sub>
SAN DIEGO HYDRO UNIT																	
LOWER SAN DIEGO SUBUNIT				Z07A0							Z0700						
EL CAJON SUBAREA				Z07A3													
15S/ 1E-21R 1 S 11- 6-63	--	7.1	1310	71 3.54 26	39 3.21 23	162 7.04 51	3 0.08 1	0	2.92 21	178 3.58 26	172 6.09 45	216 1.05 8	0.4	0.17	37	900 853	338
16S/ 1W-1G 1 S 11- 6-63	--	7.3	1850	174 8.68 39	63 5.18 24	187 8.13 37	2 0.05	0	4.62 21	282 8.66 40	416 6.51 30	231 2.02 9	0.2	0.12	43	1478 1380	694
16S/ 1W-2K 6 S 11- 6-63	--	7.4	1950	112 5.59 27	62 5.10 25	225 9.78 48	1 0.03	0	4.10 20	250 3.29 16	158 11.25 55	399 1.71 8	0.2	0.18	43	1396 1229	535
16S/ 1W-11P 4 S 11- 6-63	--	7.3	3000	212 10.58 32	75 6.17 19	365 15.87 49	2 0.05	0	4.28 13	261 4.28 10	151 3.14 10	819 23.10 71	0.4	0.20	42	2242 1906	838
16S/ 1W-12J 3 S 11- 6-63	--	7.4	3050	253 12.62 37	153 12.58 37	207 9.00 26	5 0.13	0	3.20 9	195 4.00 12	192 23.69 70	840 3.06 9	0.2	0.23	40	2268 1976	1261



**TABLE E-6**  
**MINERAL ANALYSES OF GROUND WATER 1963**  
**SAN DIEGO DRAINAGE PROVINCE (Z)**

State well number	Temp. when sampled in °F	pH	Specific conductance (micro-mhos at 25°C)	Mineral constituents in parts per million				parts per million equivalents per million percent reactance value				Mineral constituents in parts per million					
				Calcium Ca	Magnesium Mg	Sodium Na	Potassium K	Carbonate CO <sub>3</sub>	Bicarbonate HCO <sub>3</sub>	Sulfate SO <sub>4</sub>	Chloride Cl	Nitrate NO <sub>3</sub>	Fluoride F	Barium B	Silica SiO <sub>2</sub>	Total Hardness CaCO <sub>3</sub>	
TIA JUANA HYDRO SUBAREA Z1140																	
TIA JUANA HYDRO UNIT Z1100																	
Z11A1																	
18S/ 2W-32H 1 S 10- 7-63	70	7.2	11200	675 33.68 25	247 20.31 15	1900 82.61 60	10 0.26	0	541 8.87 7	817 17.01 13	3869 109.11 81	0.	0.2	1.17	20	9584 7805	2702
18S/ 2W-22P 4 S 4- 9-63	70	7.4	24500	772 38.52 11	943 77.55 22	5200 226.10 66	100 2.56 1	0	309 5.06 1	1475 30.71 9	1074.0 302.87 89	0.	0.2	0.64	19	25360 19402	5808
18S/ 2W-33K 4 S 11- 4-63	66	7.3	3750	319 15.92 35	107 8.80 19	485 21.09 46	4 0.10	0	416 6.82 15	618 12.87 29	901 25.41 56	0.	0.4	0.56	20	3002 2659	1237
18S/ 2W-35L 1 S 10-31-63	--	7.6	4500	303 15.12 29	105 8.64 17	630 27.39 53	9 0.23	0	546 8.95 18	315 6.56 13	1259 35.50 70	0.	0.1	0.69	21	3122 2911	1189
19S/ 2W- 5C 6 S 10- 4-63	69	7.8	23300	638 31.84 12	675 55.51 20	4280 186.09 68	41 1.05	0	264 4.33 2	1146 23.86 9	8780 247.60 90	12.	0.9	1.20	--	16590 15704	4371
19S/ 2W- 5G18 S 10- 7-63	70	6.9	7850	455 22.70 26	186 15.30 17	1140 49.57 57	6 0.15	0	250 4.10 5	531 11.06 13	2528 71.29 82	0.	0.1	0.37	17	6060 4986	1902

# TABLE E-7

## RADIOASSAY OF GROUND WATER

### LOS ANGELES DRAINAGE PROVINCE (U)

<u>STATE</u> <u>WELL NUMBER</u>	<u>DATE</u> <u>SAMPLED</u>	<u>TOTAL ACTIVITY</u> <u>uuc/l<sup>a</sup></u>
<u>Oxnard Hydrologic Subarea U-03.A1</u>		
1N/21W-31A1	6-18-63	0.3 ± 1.1
1N/22W-15B3	6-14-63	3.4 ± 1.1
1N/22W-18E1	6-10-63	0.5 ± 1.1
1N/22W-22C1	6-18-63	0.5 ± 1.1
<u>Central Hydrologic Subarea U-05.A5</u>		
2S/13W-28H1	6-26-63	2.8 ± 1.2
	6-26-63	0.3 ± 0.36

<sup>a</sup> MICROMICROCURIES PER LITER — PROBABLE ERROR COMPUTED AT ONE STANDARD DEVIATION IN MICROMICROCURIES PER LITER WITHOUT SELF ABSORPTION CORRECTION.

# TABLE E-8

## RADIOASSAY OF GROUND WATER

### LAHONTAN DRAINAGE PROVINCE (W)

<u>STATE</u> <u>WELL NUMBER</u>	<u>DATE</u> <u>SAMPLED</u>	<u>TOTAL ACTIVITY</u> <u>uuc/l<sup>a</sup></u>
<u>Lower Mojave Hydrologic Subunit W - 28.E0</u>		
9N/1E-10D2	7-17-63	0.4 ± 0.36
9N/1W-13H2	7-16-63	0.2 ± 0.36
10N/1W-33E1	7-18-63	0.3 ± 0.36
9N/1E-1M1	7-12-63	0.61 ± 1.1
9N/1E-15N2	7-16-63	0.1 ± 0.36
9N/2E- 8N2	7-16-63	0.72 ± 1.1
10N/2E-31R1	7-17-63	0.3 ± 0.36

<sup>a</sup> MICROMICROCURIES PER LITER - PROBABLE ERROR COMPUTED AT ONE STANDARD DEVIATION IN MICROMICROCURIES PER LITER WITHOUT SELF ABSORPTION CORRECTION.

TABLE E-9

RADIOASSAY OF GROUND WATER  
 COLORADO RIVER BASIN DRAINAGE PROVINCE (X)

STATE WELL NUMBER	DATE SAMPLED	TOTAL ACTIVITY uuc/l <sup>o</sup>
<u>Indio Hydrologic Subarea X -19.D7</u>		
5S/7E-16K1	5- 1-63	0.2 $\pm$ 1.1
5S/7E-22K1	4-30-63	13.8 $\pm$ 3.7
5S/7E-33C1	5- 1-63	0.2 $\pm$ 1.1
5S/8E-31D1	4-30-63	0.2 $\pm$ 1.1
5S/8E-33N1	4-30-63	0.1 $\pm$ 1.1
6S/8E- 7P1	4-30-63	0.3 $\pm$ 1.1
6S/8E-10A4	4-30-63	0.1 $\pm$ 0.36
6S/8E-27H1	4-30-63	0.3 $\pm$ 1.1
6S/9E-30C1	4-30-63	0.1 $\pm$ 0.36
7S/8E-22M1	4-30-63	7.4 $\pm$ 2.3
7S/9E-16K1	4-30-63	4.3 $\pm$ 1.5

<sup>o</sup> MICROMICROCURIES PER LITER - PROBABLE ERROR COMPUTED AT ONE STANDARD DEVIATION IN MICROMICROCURIES PER LITER WITHOUT SELF ABSORBTION CORRECTION.

# TABLE E-10

## RADIOASSAY OF GROUND WATER

### SANTA ANA DRAINAGE PROVINCE (Y)

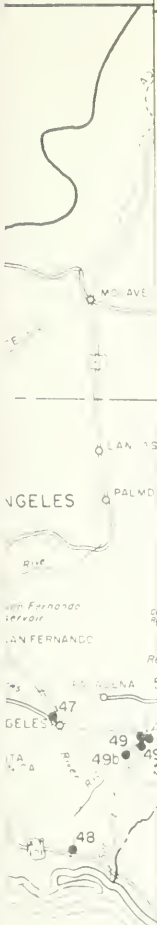
<u>STATE</u> <u>WELL NUMBER</u>	<u>DATE</u> <u>SAMPLED</u>	<u>TOTAL ACTIVITY</u> <u>uuc/l<sup>a</sup></u>
<u>Chino Hydrologic Subarea Y-01.B1</u>		
1S/6W-29R1	6-13-63	0.1 ± 1.1
	7- 2-63	0.4 ± 0.36
2S/7W-10M1	3-13-63	10.4 ± 2.9
2S/7W-21L1	3-13-63	16.4 ± 4.0
2S/7W-22K1	6-11-63	0.2 ± 0.36
2S/7W-23E1	3-13-63	7.2 ± 2.2
	6-12-63	0.1 ± 0.36
2S/7W-27A1	3-13-63	18.3 ± 4.3
	5-28-63	26.35 ± 0.8

### Bunker Hill Hydrologic Subarea Y-01.E2

1S/3W-16A1	6- 4-63	0.2 ± 1.1
------------	---------	-----------

<sup>a</sup> MICROMICROCURIES PER LITER - PROBABLE ERROR COMPUTED AT ONE STANDARD DEVIATION IN MICROMICROCURIES PER LITER WITHOUT SELF ABSORPTION CORRECTION





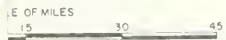
LEGEND

○ WATER SAMPLING STATION

STATE OF CALIFORNIA  
 DEPARTMENT OF WATER RESOURCES  
 SAN GABRIEL DISTRICT

DATA, 1963

FACE WATER QUALITY  
 AM STATIONS, 1962-63



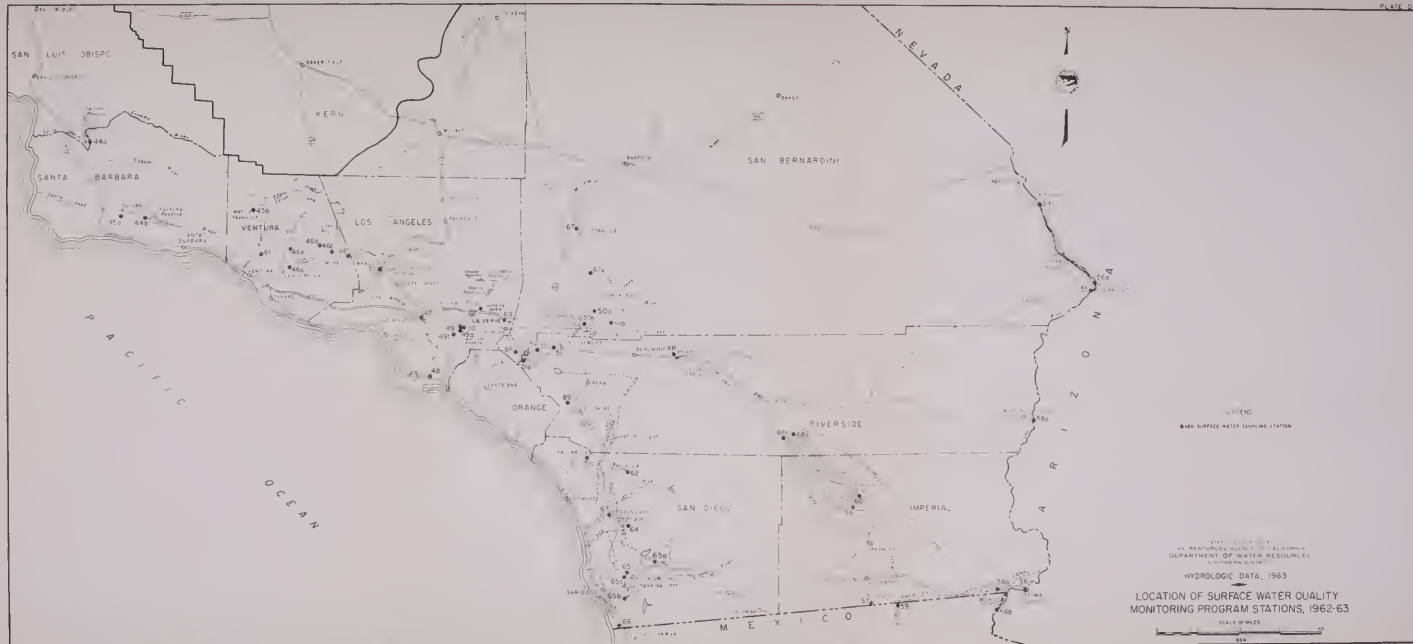
1964





STREAM SAMPLING STATIONS 1962-1963

Sta. No.	Station Name	Sta. No.	Station Name
44a	Cuyama River near Garey	56a	All American Canal near Pilot Knob
44b	Santa Ynez River at Cachuma Reservoir	56b	Colorado River below Morelos Dam
45a	Santa Ynez River near Solvang	56c	Colorado River near Rhythe
45b	Matilija Creek above Dam	56d	Colorado River at Colorado River Intake
46	Santa Clara River at Los Angeles-Ventura County Line	57	New River at International Boundary
46a	Santa Clara River near Santa Paula	58	New River near Westmorland
46c	Firu Creek near Piru	59	Alamo River at International Boundary
46d	Sespe Creek near Fillmore	60	Alamo River near Calipatria
46e	Santa Paula Creek near Santa Paula	61	Ventura River near Ventura
47	Los Angeles River at Figueroa Street	62	San Luis Rey River near Pala
48	Los Angeles River at Pacific Coast Highway	63	Escondido Creek near Harmony Grove
49	Rio Hondo at Whittier Narrows	64	San Dieguito River below San Pasqual
49a	Mission Creek at Whittier Narrows	65	San Diego River at Old Mission Dam
49b	Rio Hondo above Spreading Grounds	65a	Forester Creek at Mission Gorge Road
50	San Gabriel River at Whittier Narrows	65b	Spring Valley Creek near La Pressa
50b	Warm Creek at Colton	65c	San Diego River near Mission Gorge Road
50c	Warm Creek at San Bernardino	66	Tia Juana River at International Boundary
50d	San Gabriel River at Azusa Poverhouse	67	Mojave River near Victorville
51	Santa Ana River near Arlington	67a	Mojave River at the Forks
51a	Santa Ana River below Prado Dam	68	Whitewater River near Whitewater
51b	Santa Ana River near Mentone	68a	Salton Sea at Salton Sea State Park
51c	Santa Margarita River near Fallbrook	68b	Whitewater River near Mecca
51e	Santa Ana River near Norco	69	Colorado River Aqueduct at La Verne
54	Colorado River near Topock, Arizona	70	Los Angeles Aqueduct near San Fernando
55	Colorado River below Parker Dam	86	Chino Creek near Chino
56	Colorado River at Yuma, Arizona	89	Lake Elsinore at North Shore



STATE OF CALIFORNIA  
 DEPARTMENT OF WATER RESOURCES  
 HYDROLOGIC DATA, 1963  
 LOCATION OF SURFACE WATER QUALITY  
 MONITORING PROGRAM STATIONS, 1962-63  
 SCALE OF MILES



D

FURNACE CREEK  
RANCH

4 mi

OTRONA

WYOMER  
BRIDGECREST

AQUEDUCT

MOJAVE BOR  
1665

65

10374

VENTURA

10381

NEHALO

VENTURA

10380

CONCORD PK

10379

10372  
10374  
10378

O

C



INDEX TO MONITORED AREAS\*

<u>Name</u>	<u>Number</u>
<b>CENTRAL COASTAL DRAINAGE PROVINCE (T)</b>	
Paso Robles Hydrologic Subunit	TO980
Santa Maria Hydrologic Subunit	TI2A0
Cuyama Valley Hydrologic Subunit	TI200
<b>LOS ANGELES DRAINAGE PROVINCE (U)</b>	
Oxnard Hydrologic Subarea	UO3A1
Santa Paula Hydrologic Subarea	UO3B1
Eastern Hydrologic Subarea	UO3E1
East Las Pasos Hydrologic Subarea	UO3F2
Conejo Valley Hydrologic Subarea	UO3F4
Thousand Oaks Hydrologic Subarea	UO3F6
West Coast Hydrologic Subarea	UO5A2
Central Hydrologic Subarea	UO5A5
Main San Gabriel Hydrologic Subarea	UO5D1
<b>LAHONTAN DRAINAGE PROVINCE (W)</b>	
Lancaster Hydrologic Subarea	W26A5
Middle Mojave Hydrologic Subunit	W2800
Lower Mojave Hydrologic Subunit	W2800
<b>COLORADO RIVER BASIN DRAINAGE PROVINCE (X)</b>	
Twentynine Palms Hydrologic Subunit	XO9A0
Indio Hydrologic Subarea	XI9D7
<b>SANTA ANA DRAINAGE PROVINCE (Y)</b>	
East Coastal Plain Hydrologic Subarea	YO1A1
Santa Ana Narrows Hydrologic Subarea	YO1A3
Chino Hydrologic Subarea	YO1B1
Bunker Hill Hydrologic Subarea	YO1E2
<b>SAN DIEGO DRAINAGE PROVINCE (Z)</b>	
Mission Hydrologic Subarea	ZO3A1
El Cajon Hydrologic Subarea	ZO7A3
Ma Juana Hydrologic Subarea	Z11A1

\*Monitored areas may include only a portion of the hydrologic units, subunits, or subareas listed.



STATE OF CALIFORNIA  
 THE RESOURCES AGENCY OF CALIFORNIA  
 DEPARTMENT OF WATER RESOURCES  
 SOUTHERN DISTRICT  
 HYDROLOGIC DATA, 1963  
 LOCATION OF SELECTED AREAS MONITORED  
 FOR GROUND WATER QUALITY, 1963  
 SCALE: MILES  
 STATE MILES





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